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FIG. 1

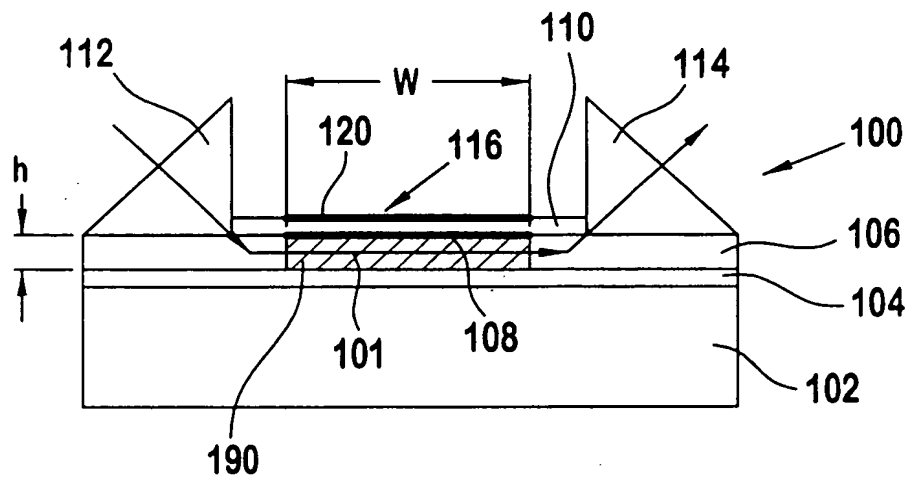


FIG. 2

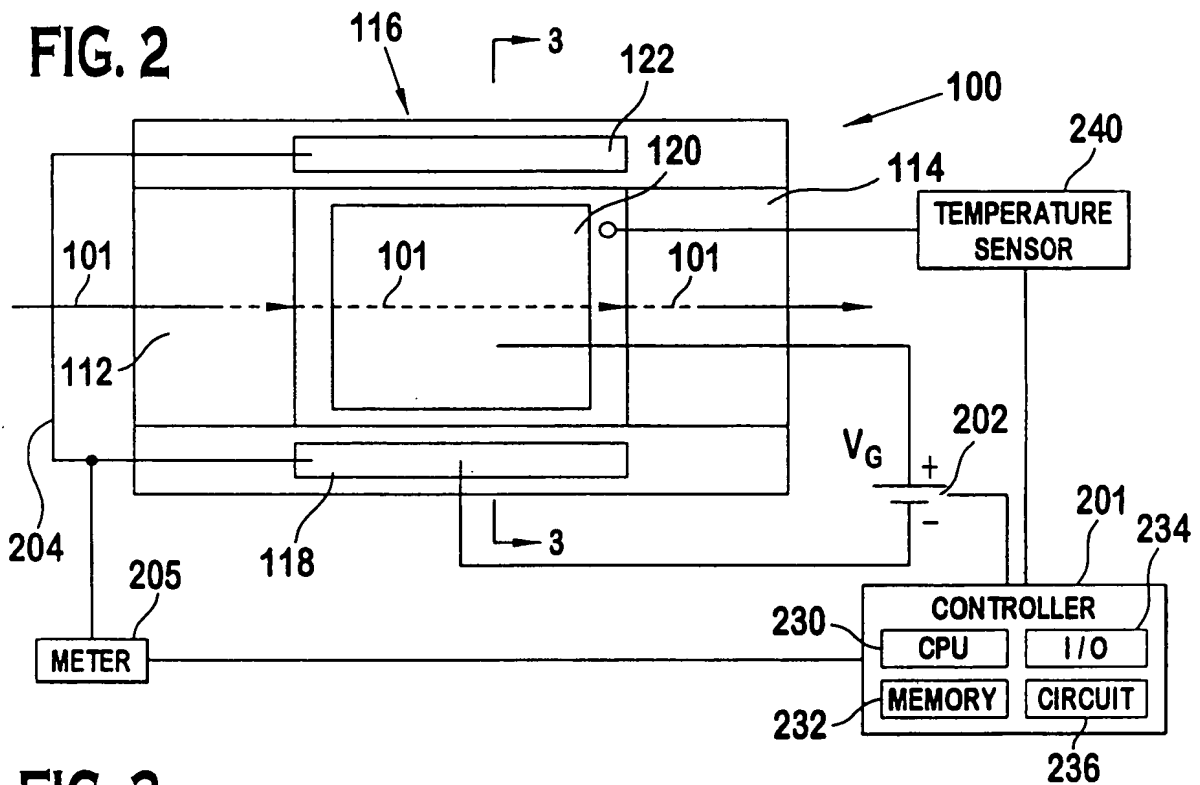
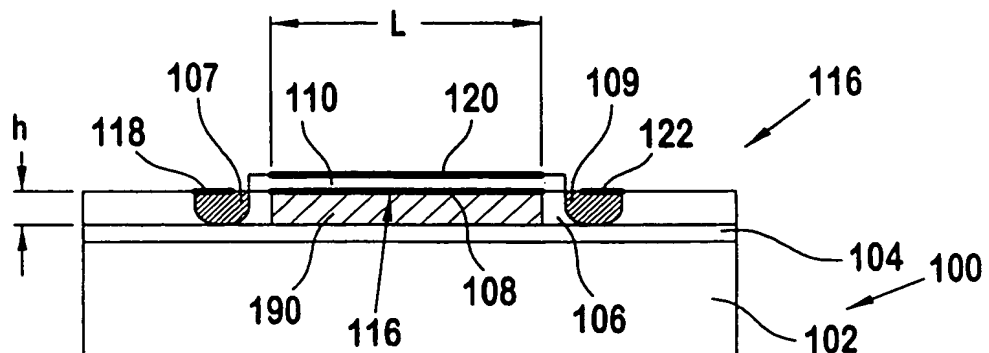


FIG. 3



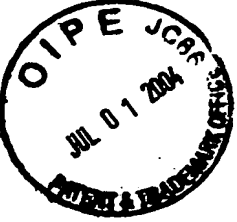


FIG. 4

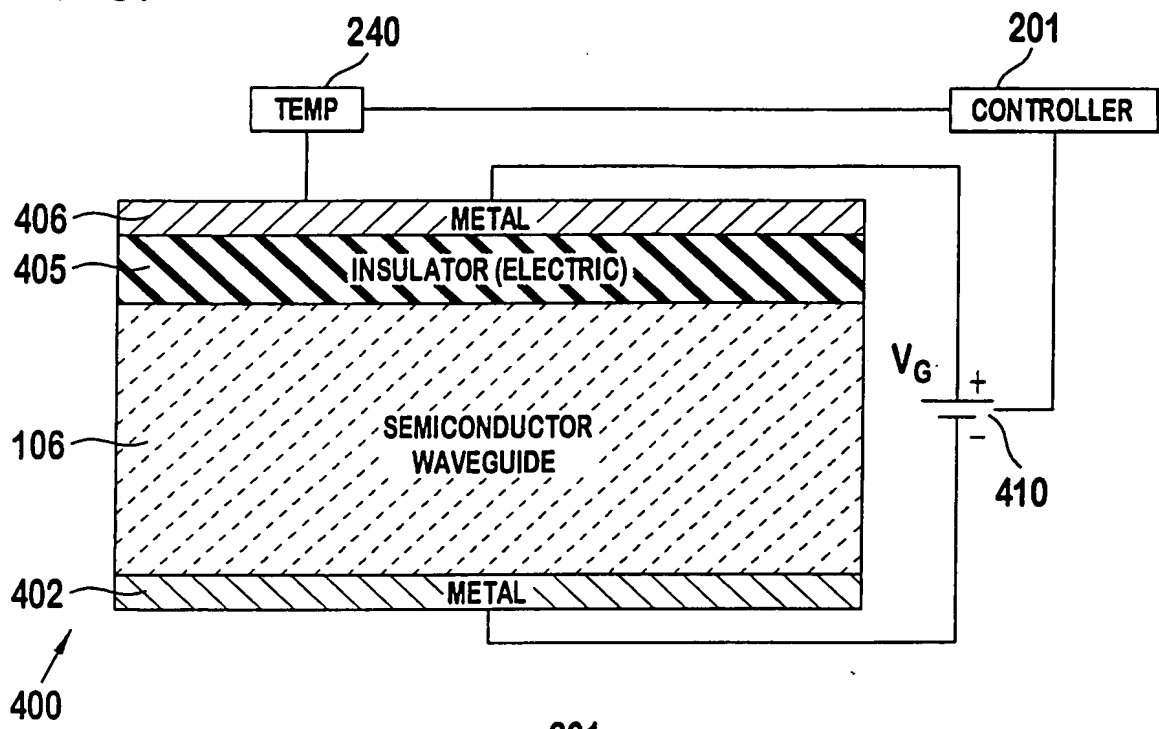


FIG. 5

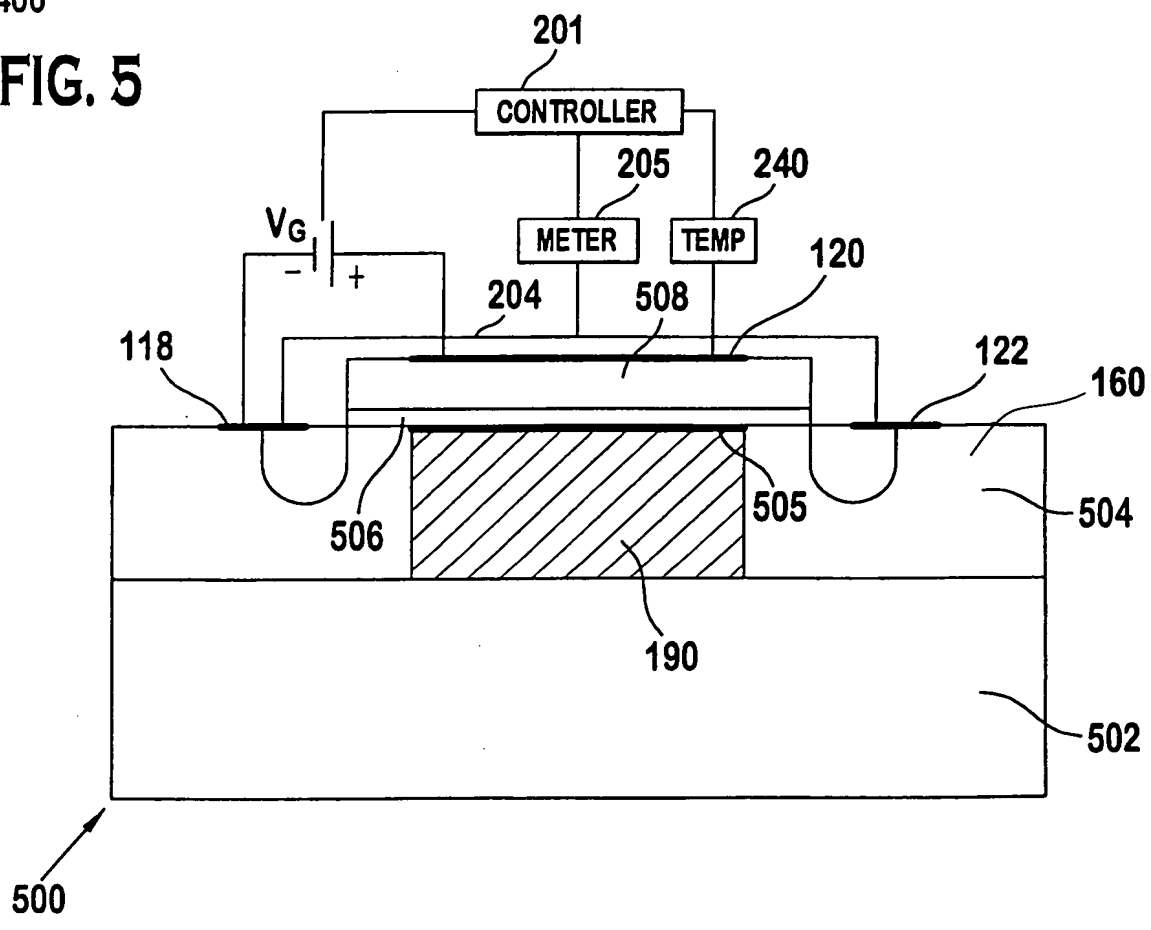


FIG. 6

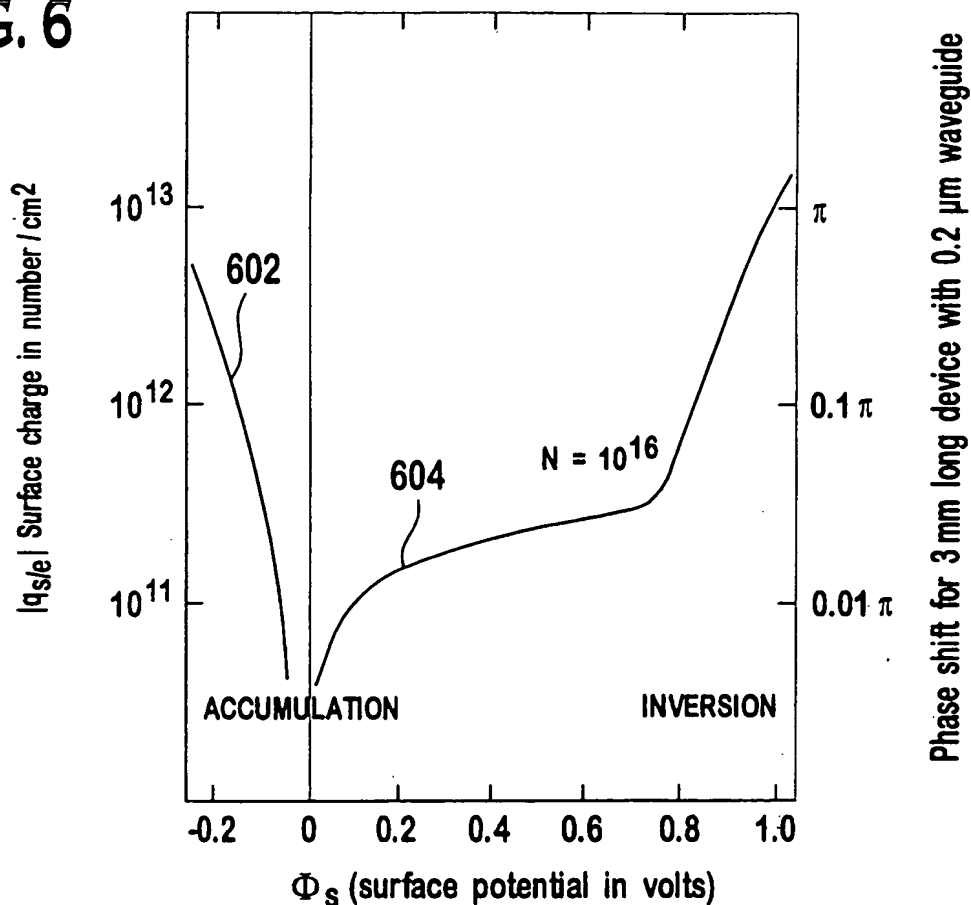


FIG. 7

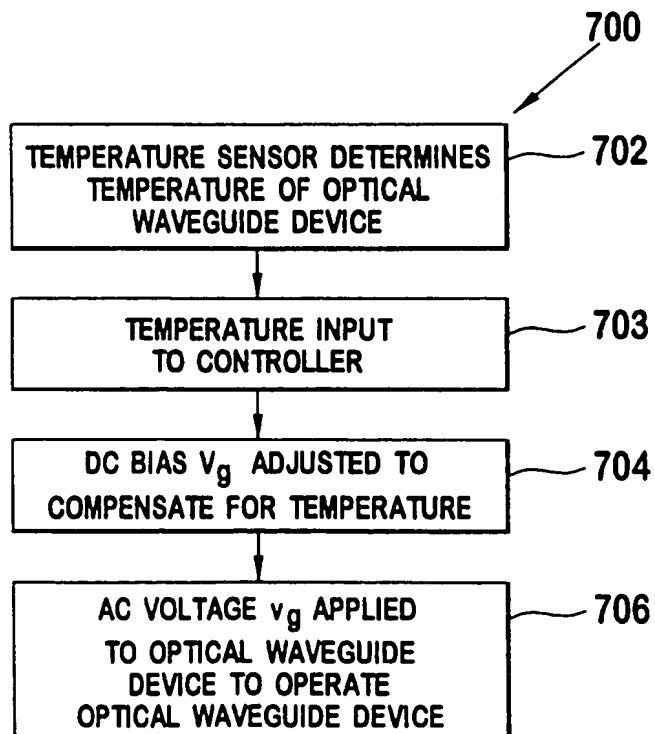


FIG. 8

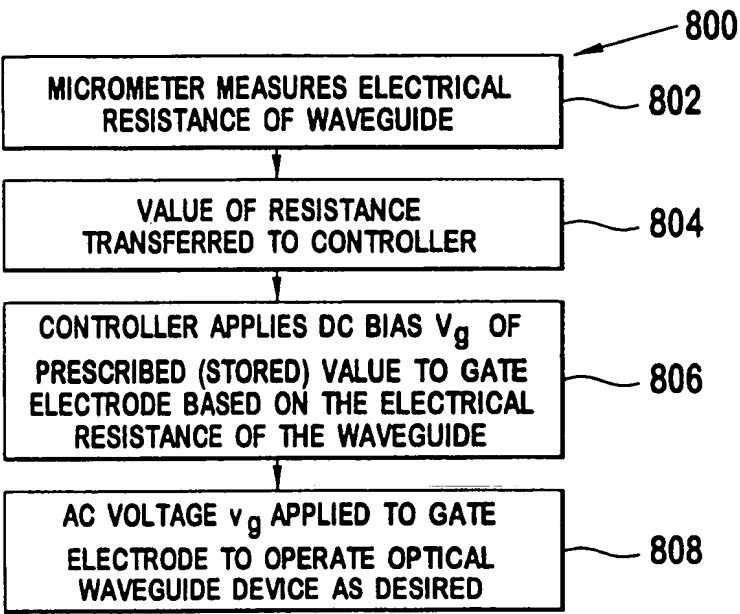


FIG. 9

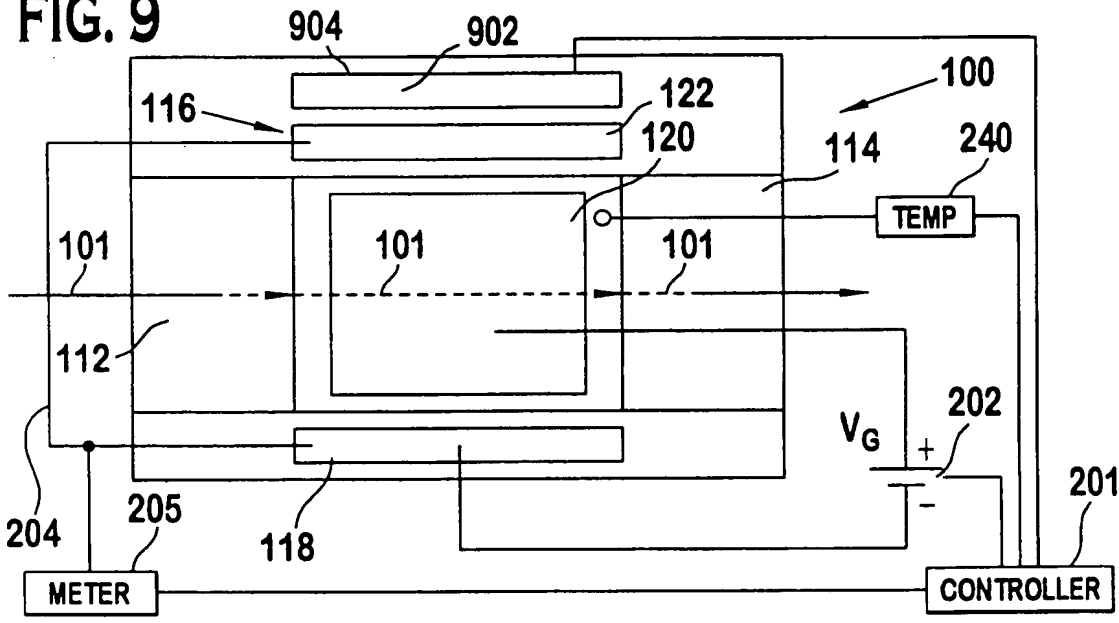


FIG. 10

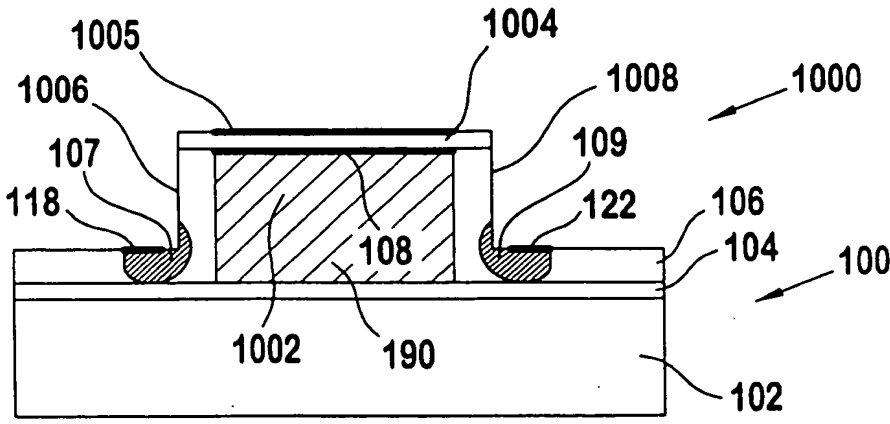


FIG. 11

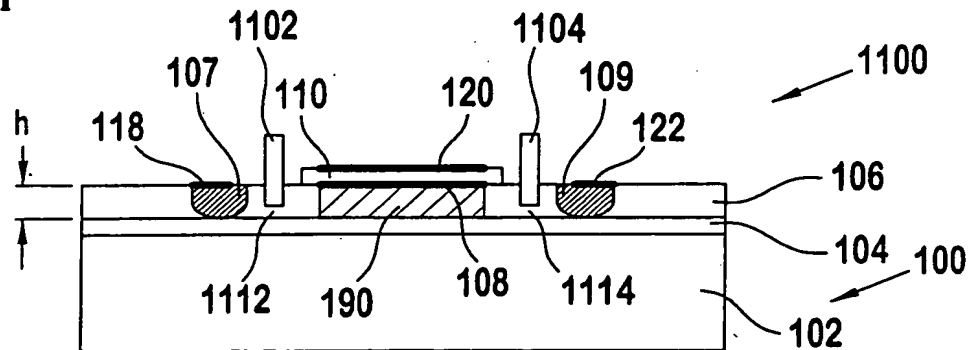


FIG. 12

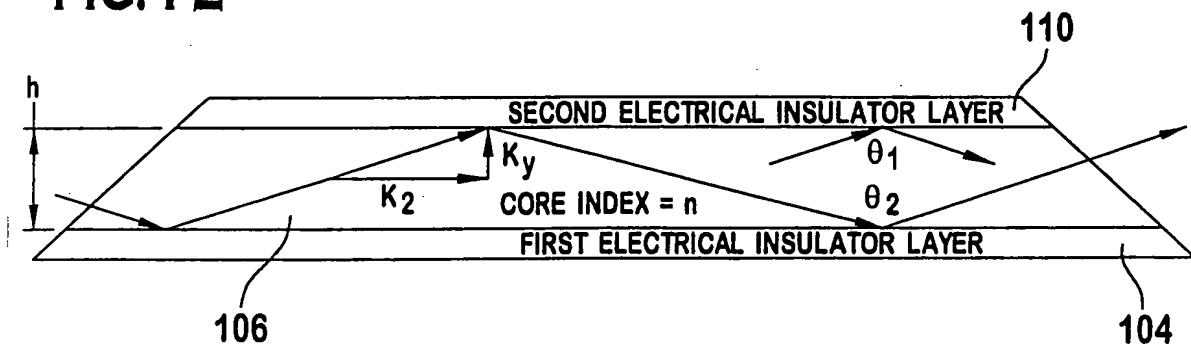
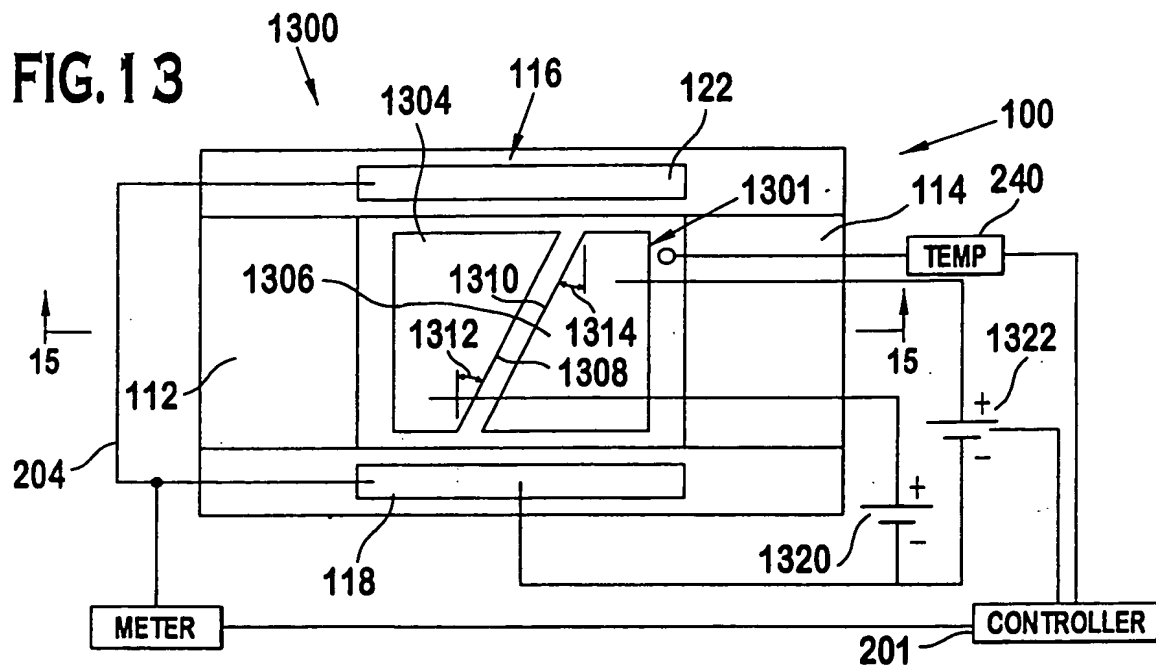


FIG. 13



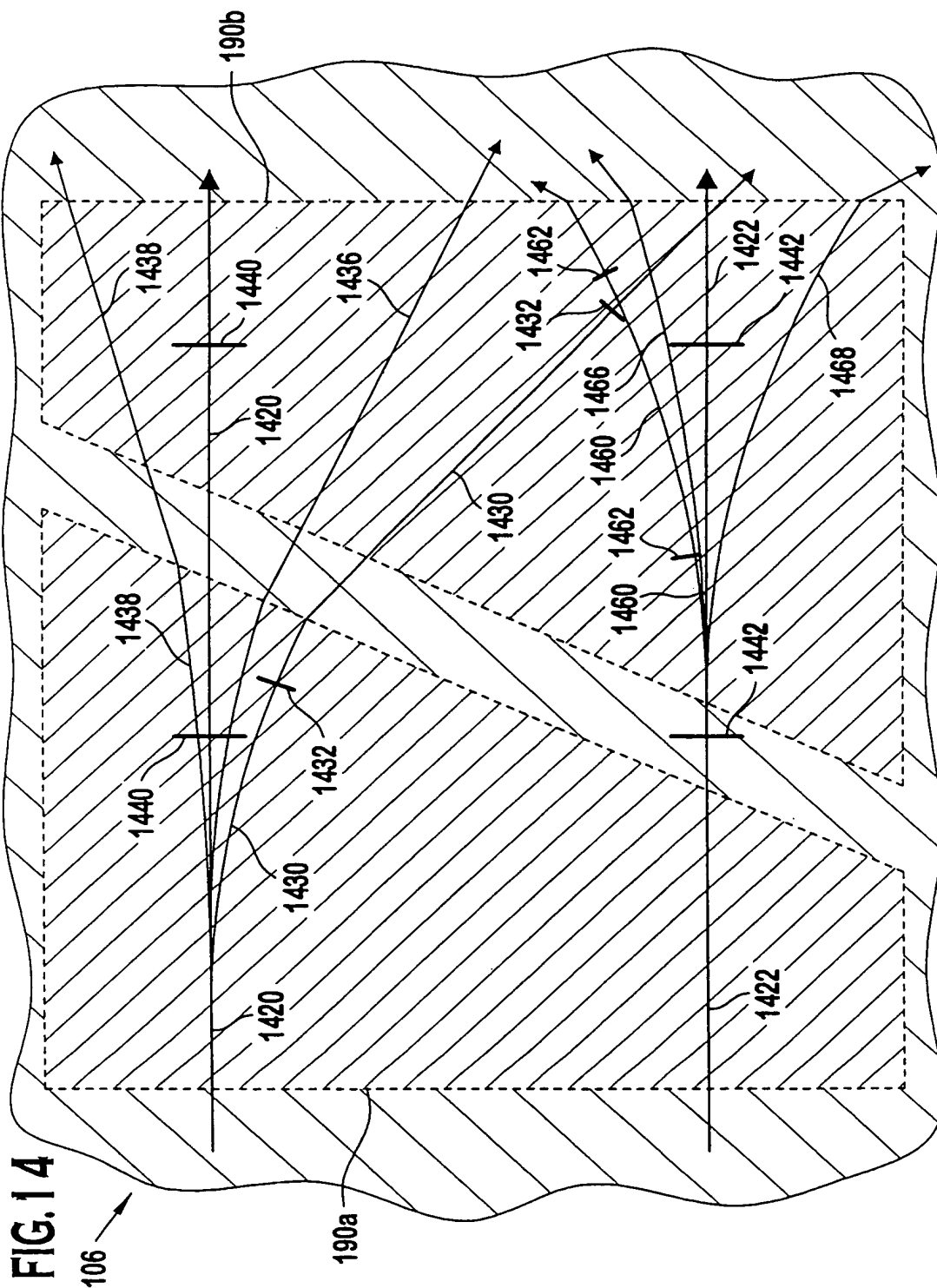


FIG. 1 5A

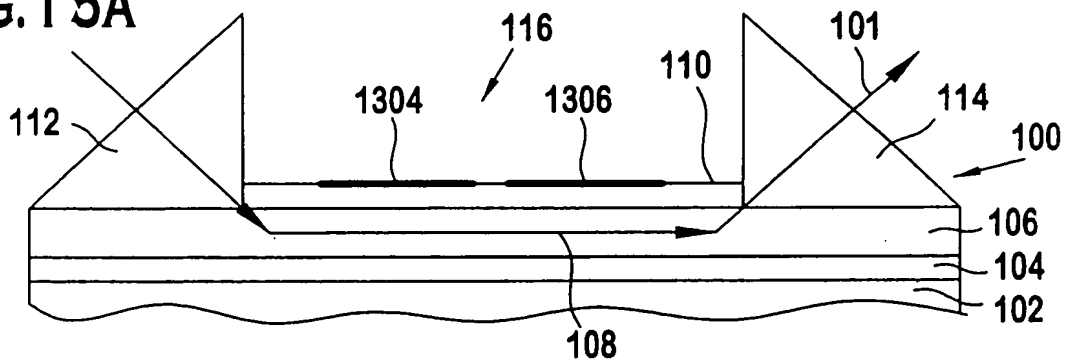


FIG. 1 5B

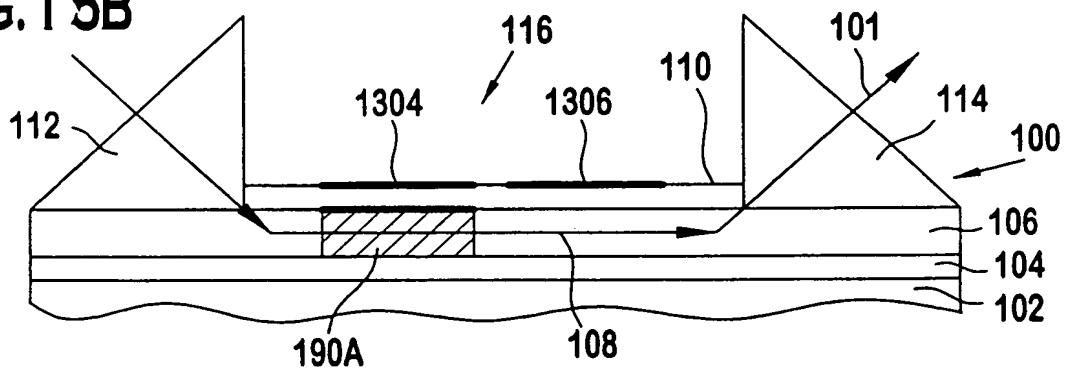


FIG. 1 5C

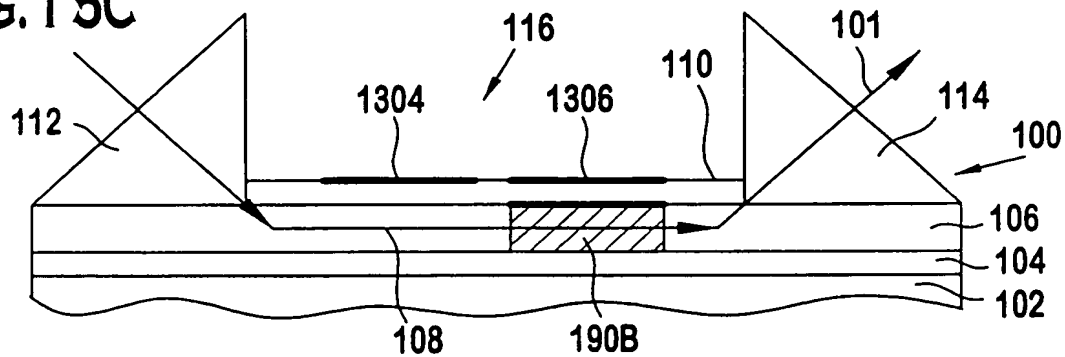


FIG. 1 5D

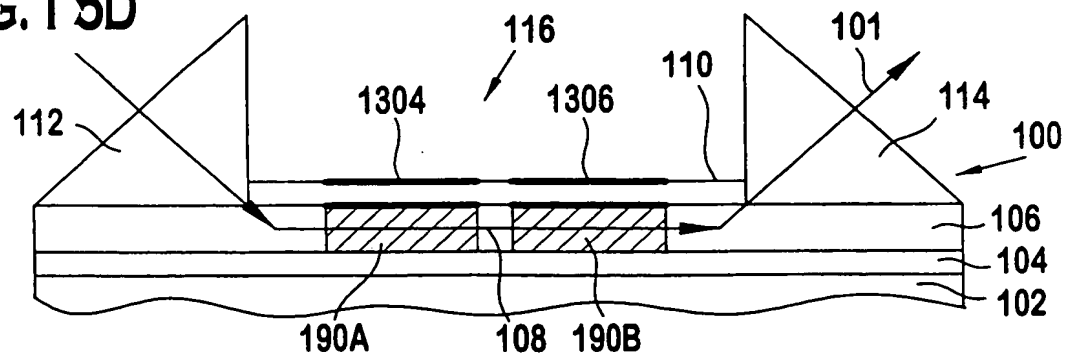


FIG. 16

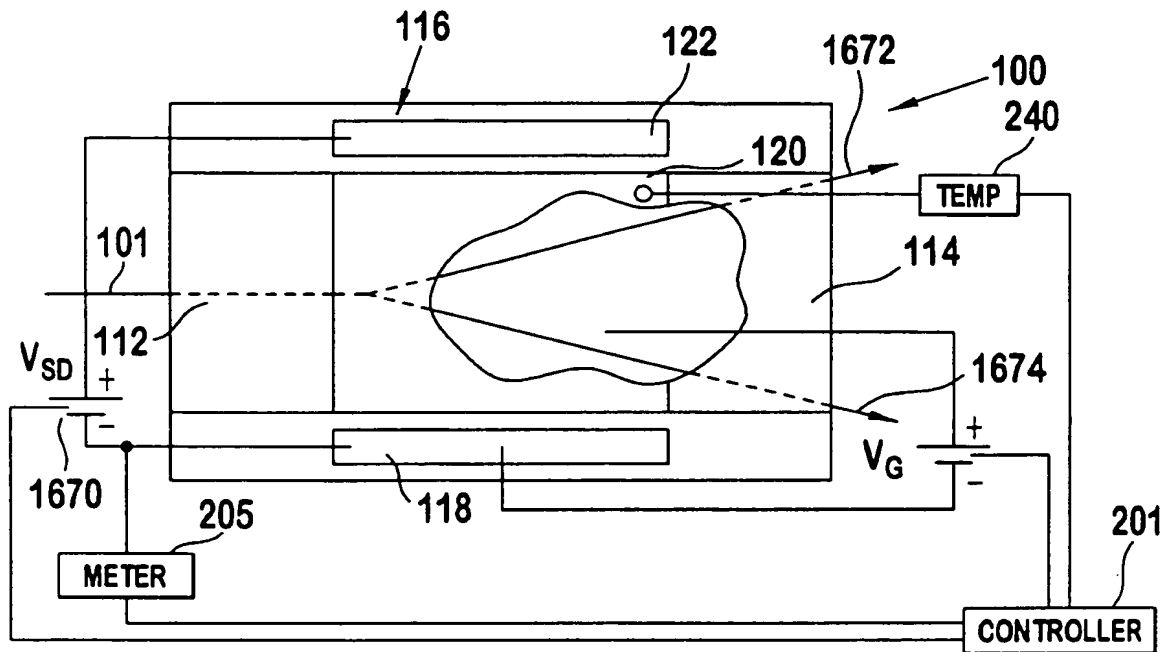


FIG. 17

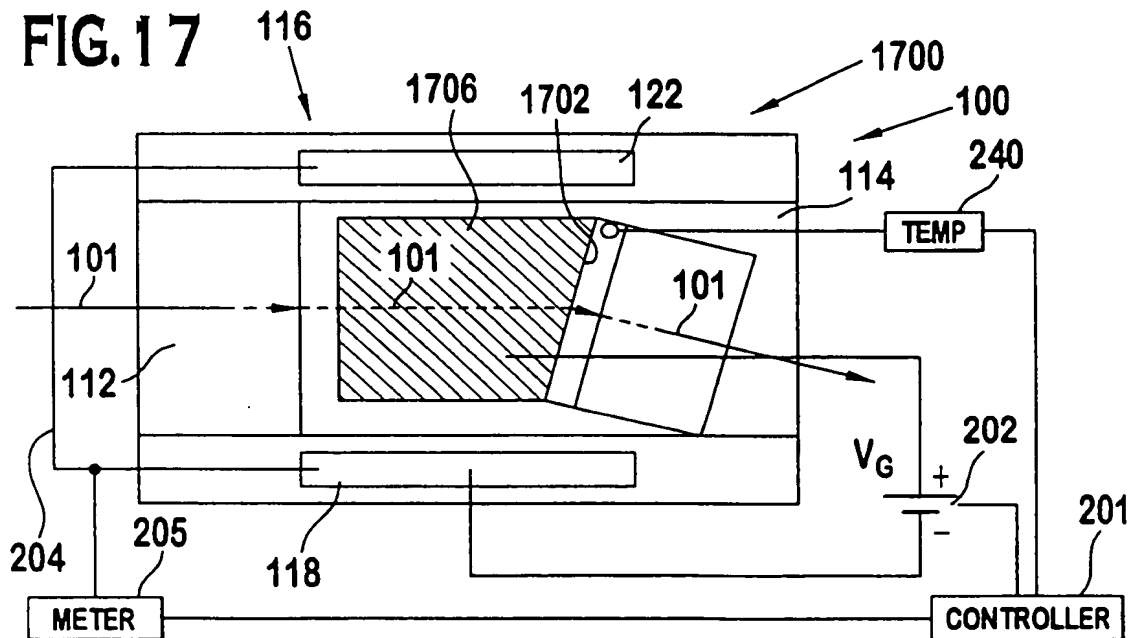


FIG. 18

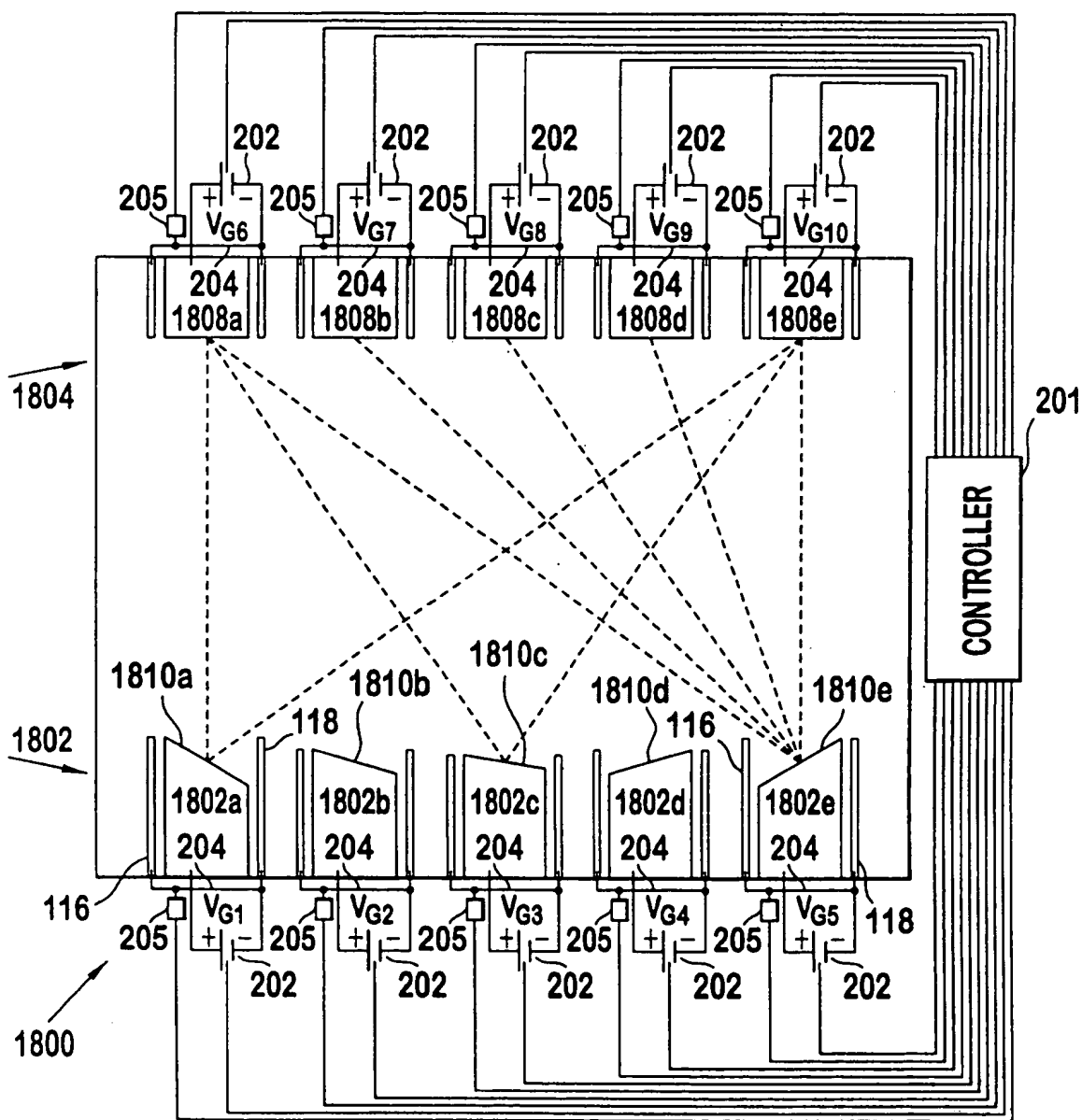


FIG. 19

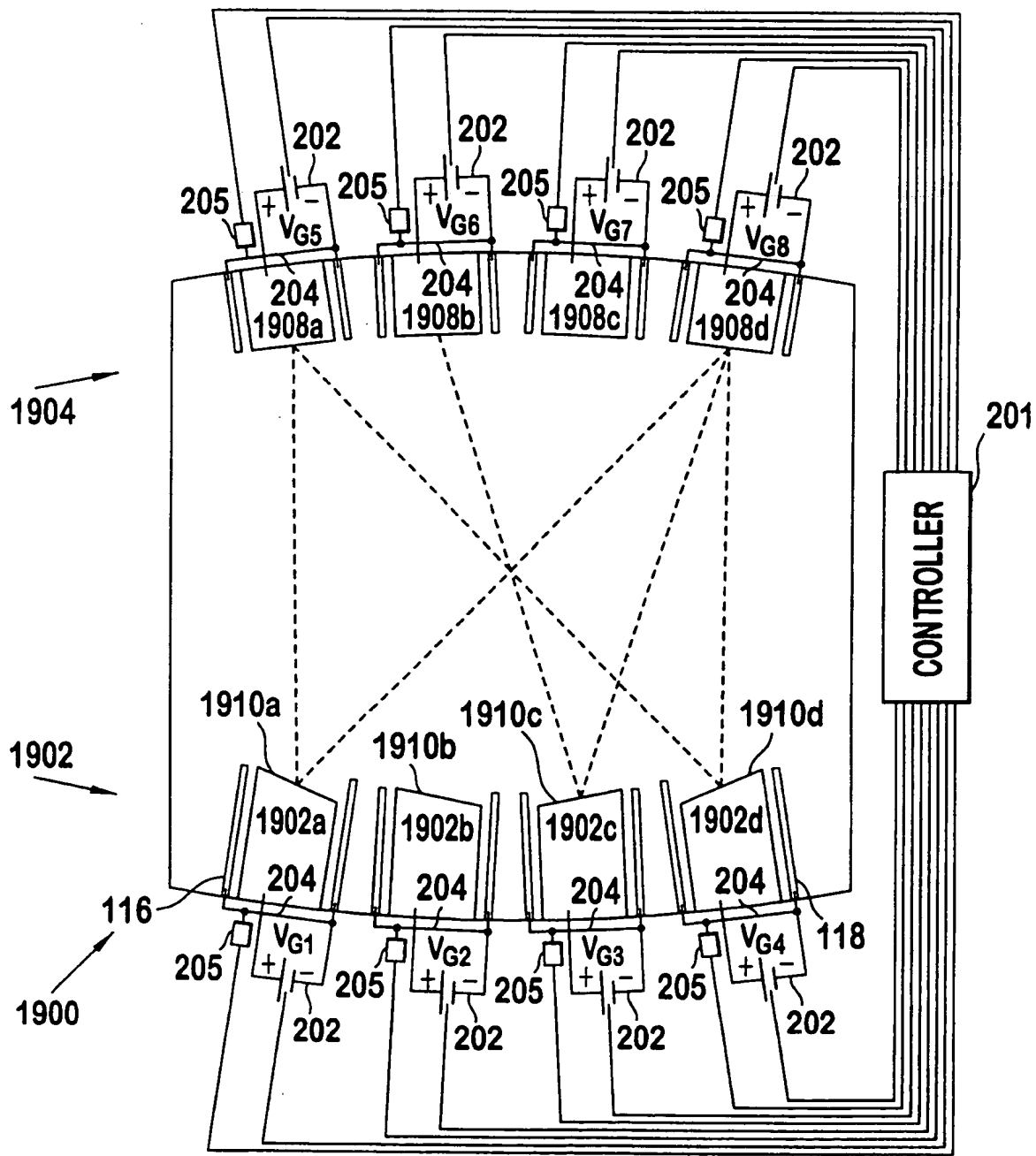


FIG. 20

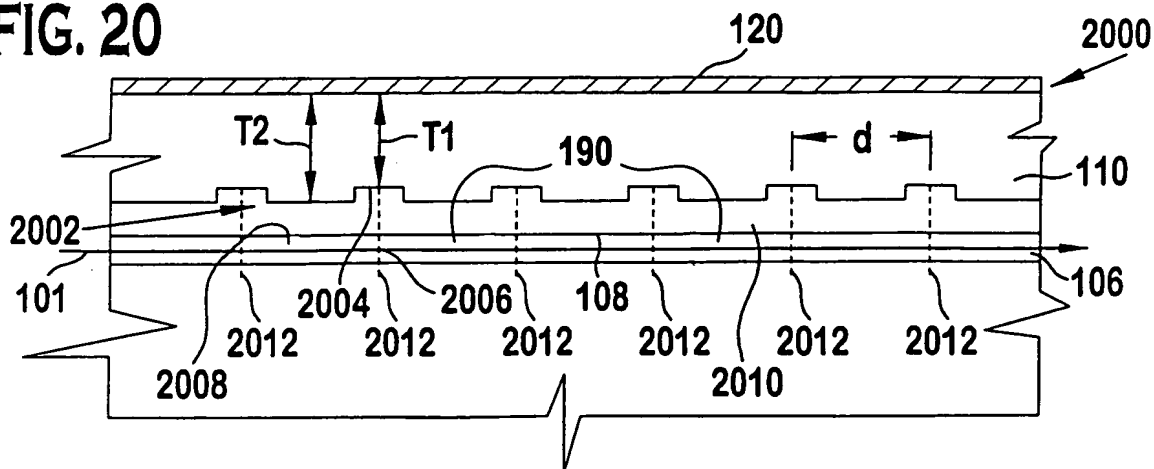


FIG. 21

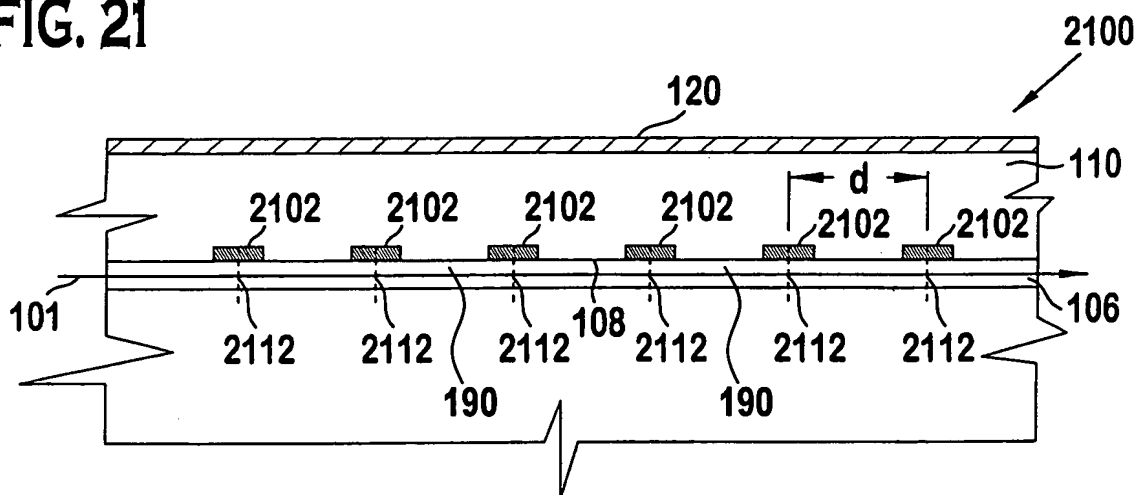


FIG. 22

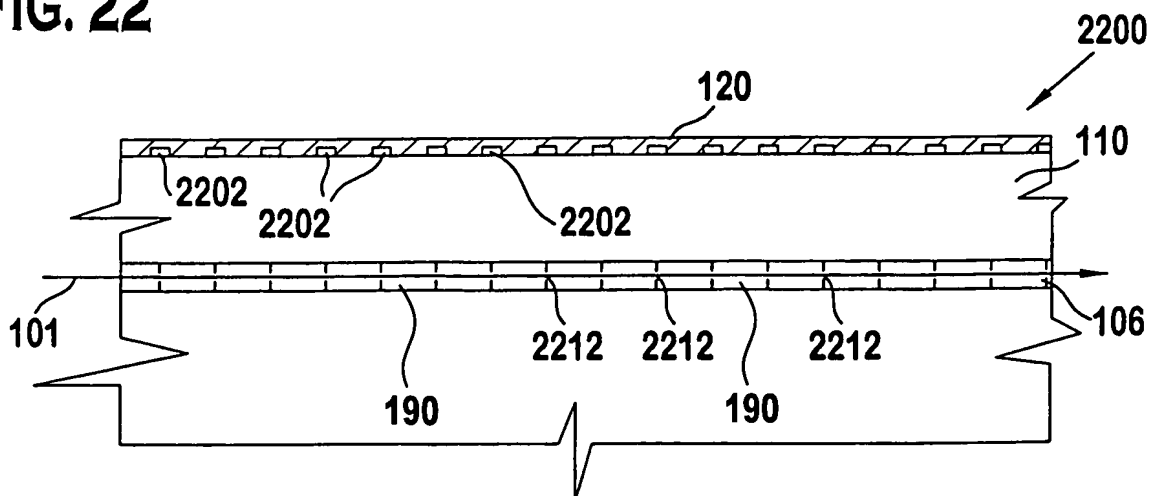


FIG. 23

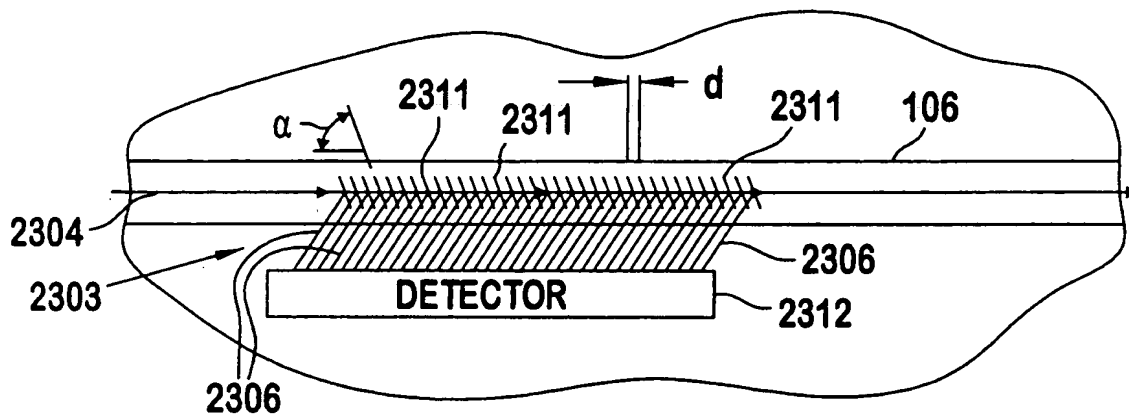


FIG. 24

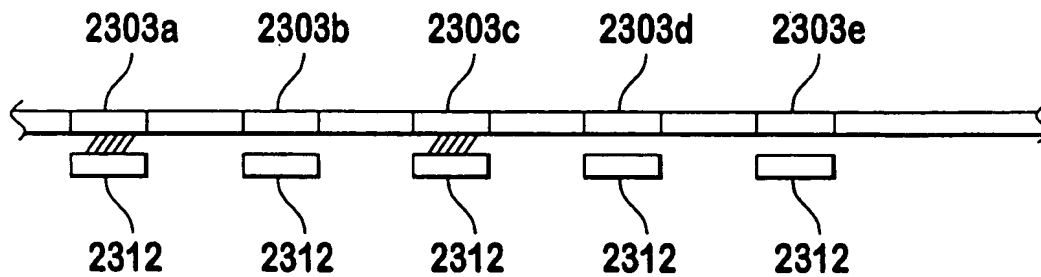


FIG. 25A

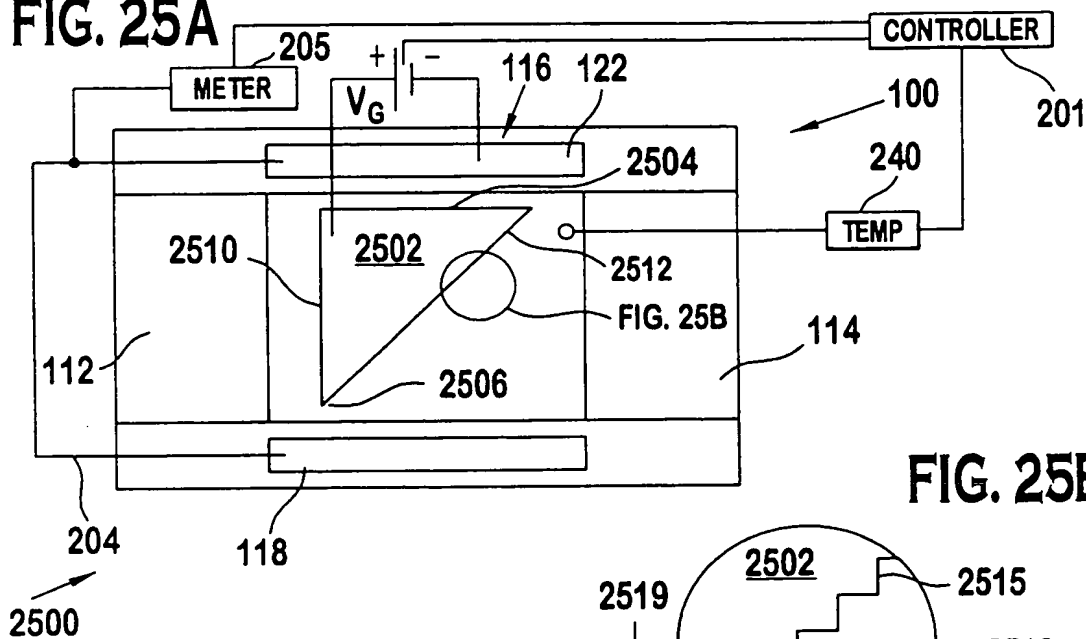


FIG. 25B

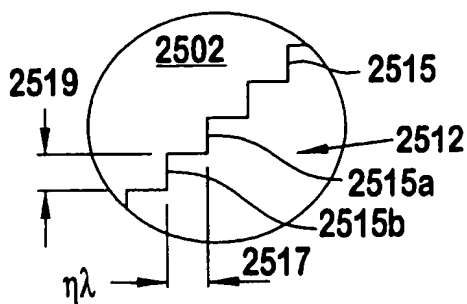


FIG. 26

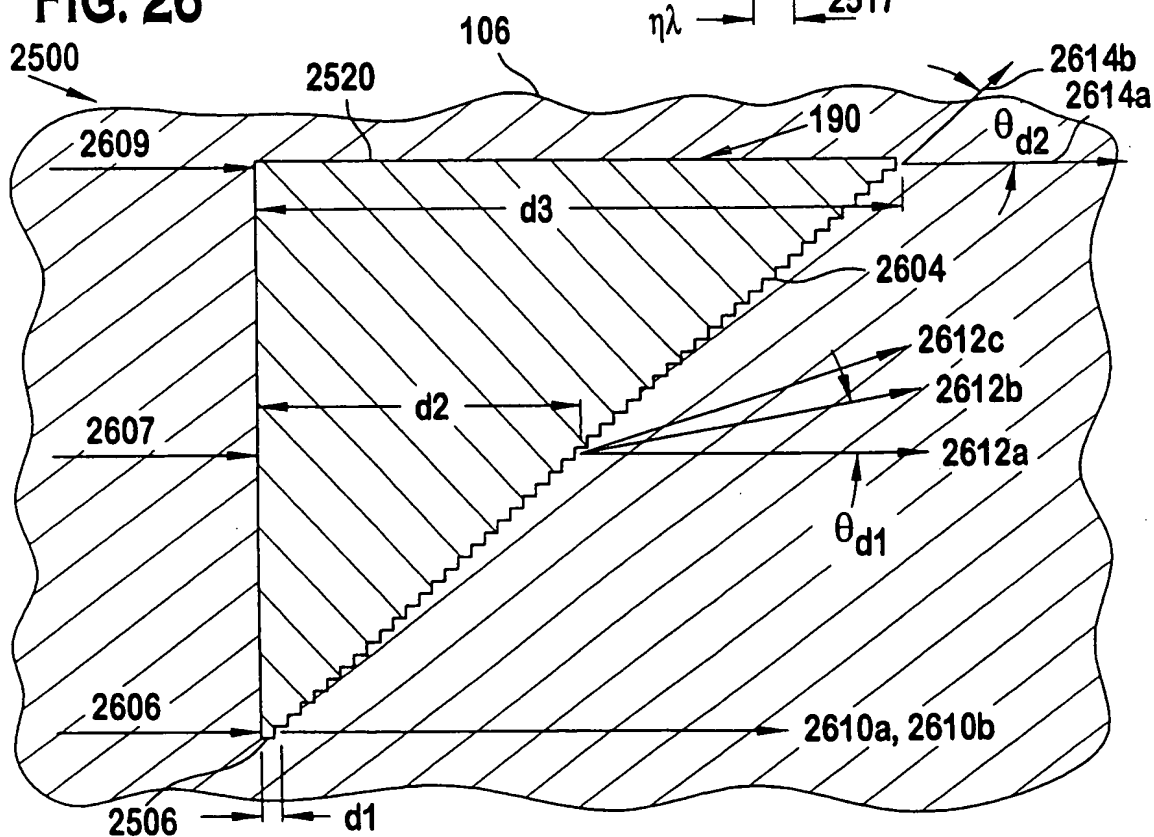


FIG. 27

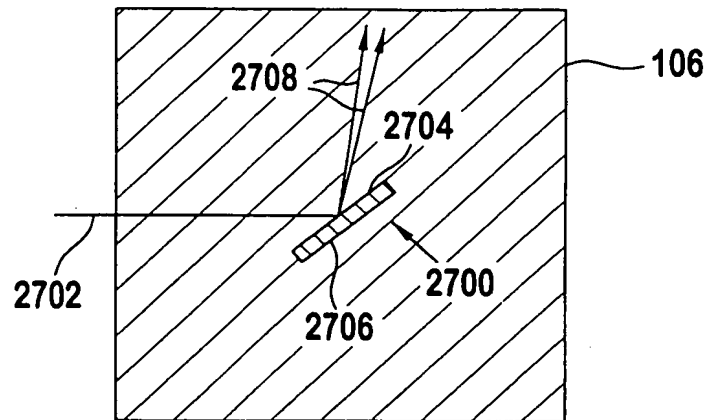


FIG. 28

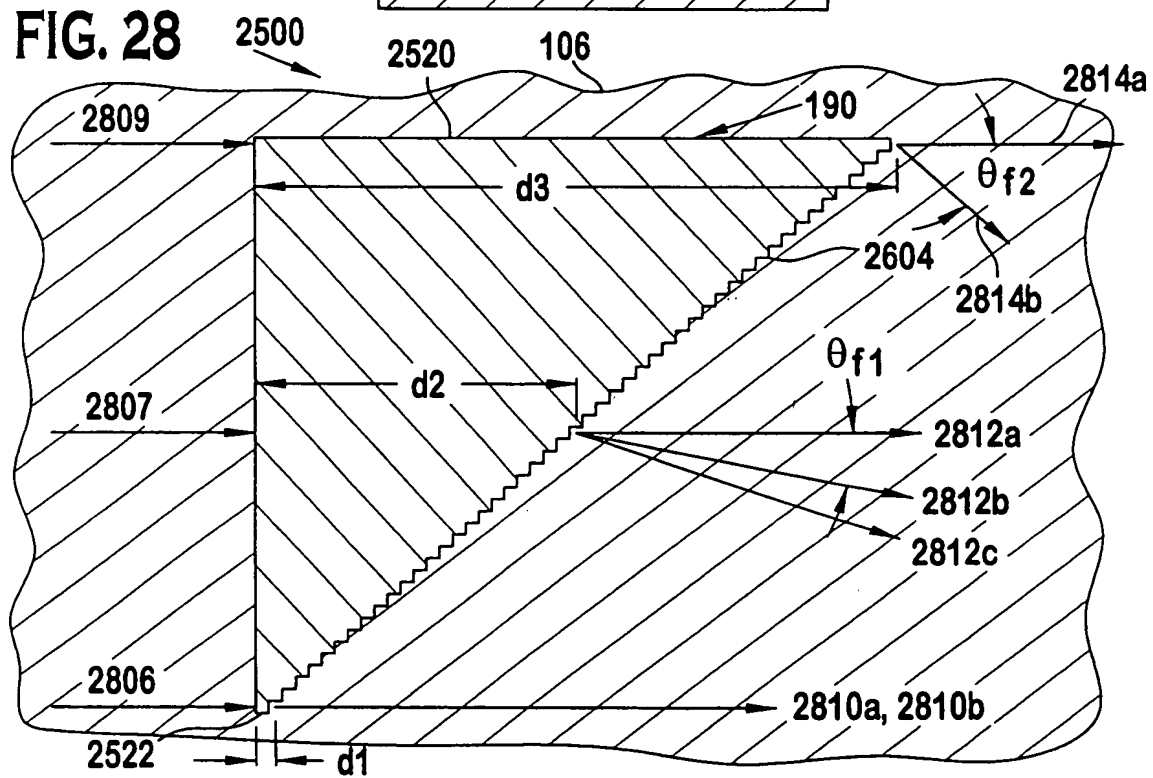


FIG. 29

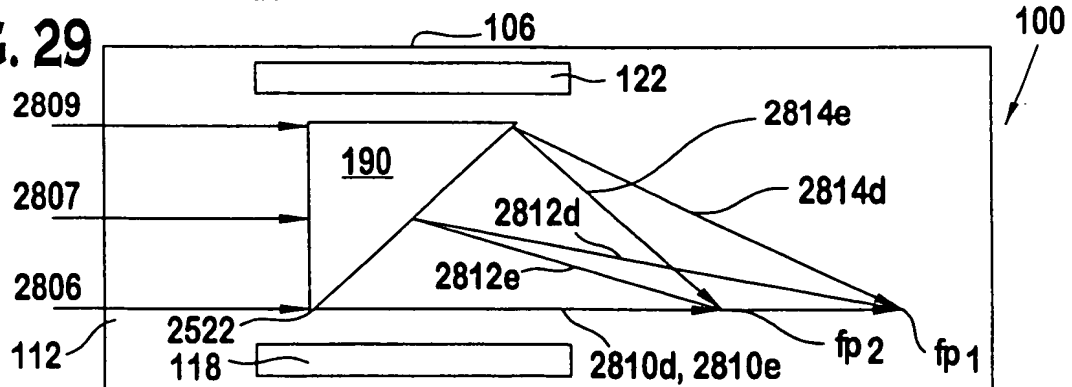


FIG. 30B

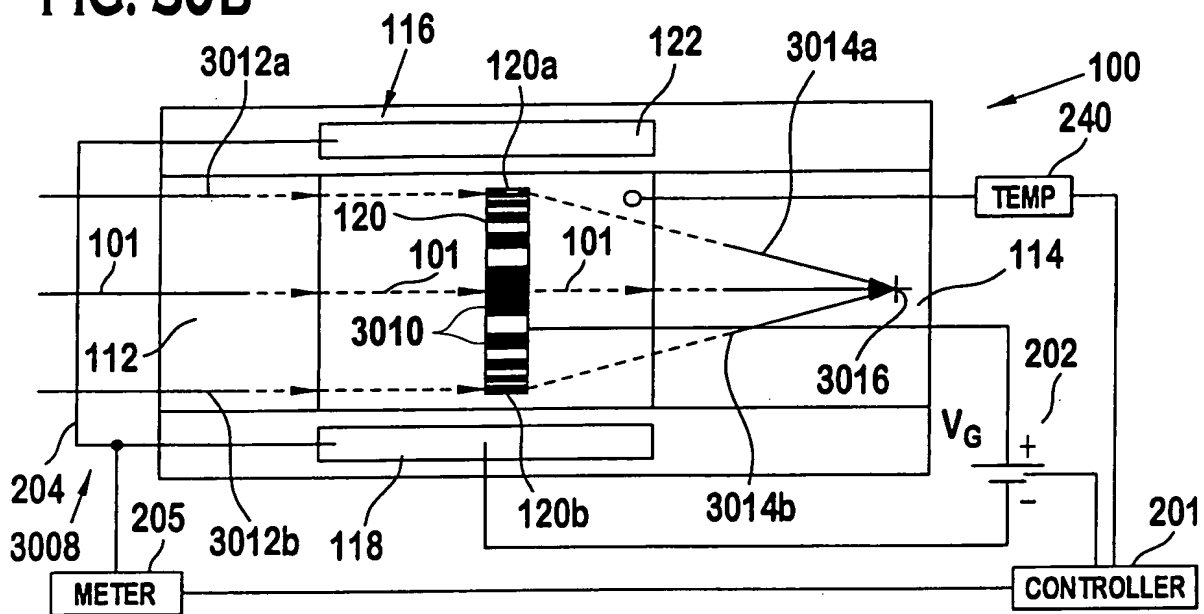


FIG. 30A

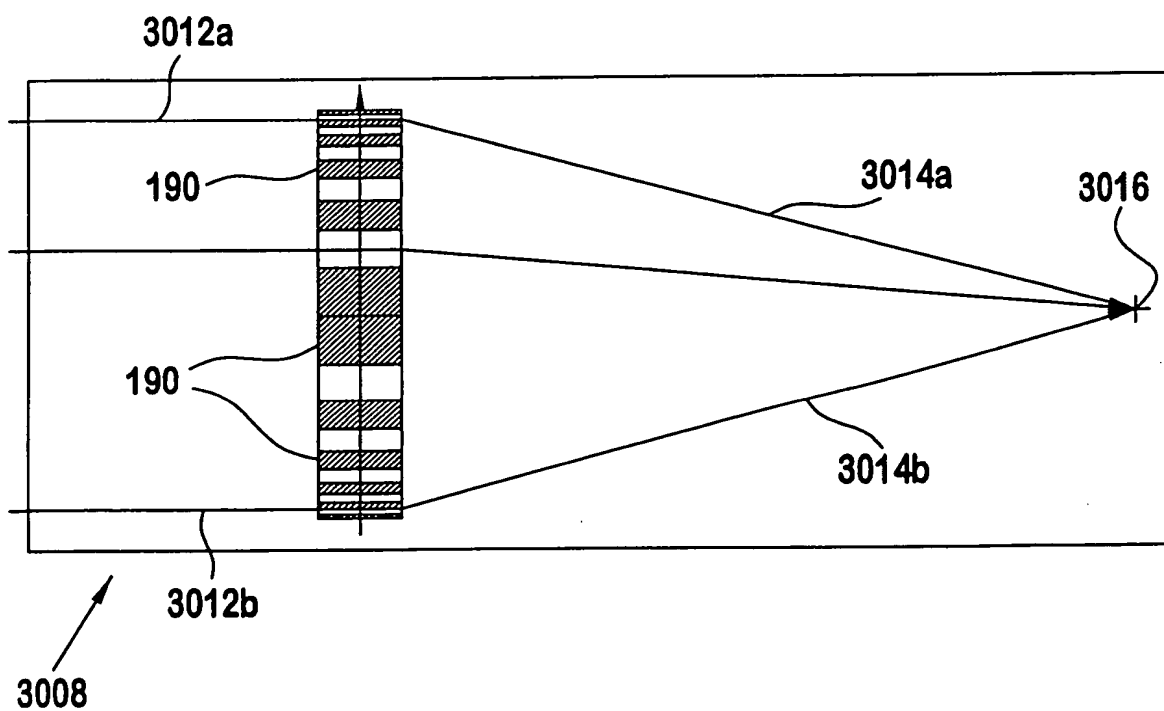


FIG. 31B

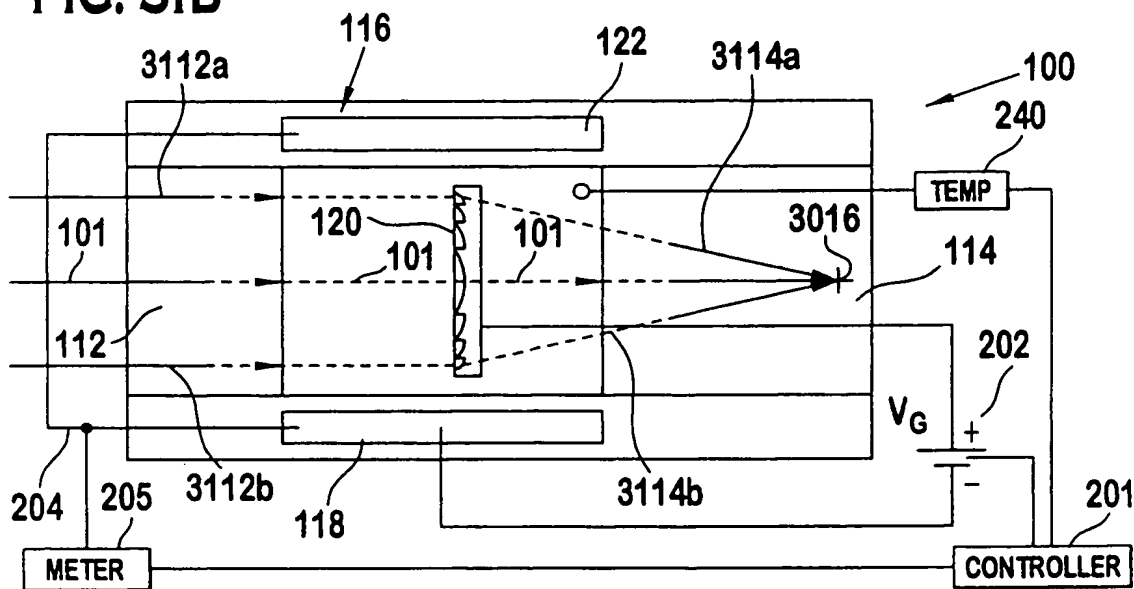


FIG. 31 A

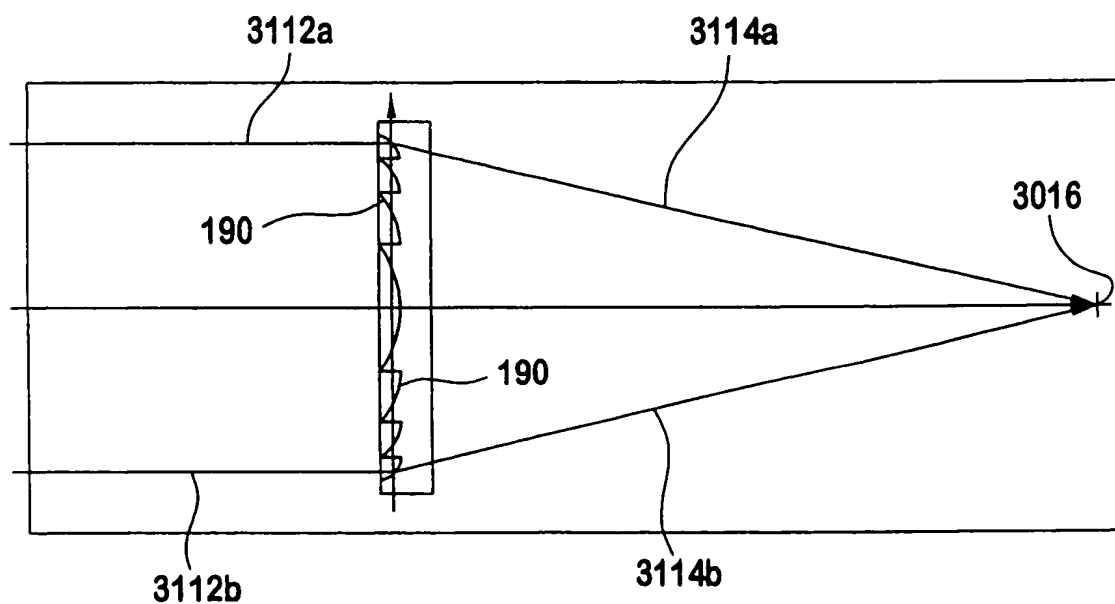


FIG. 32B

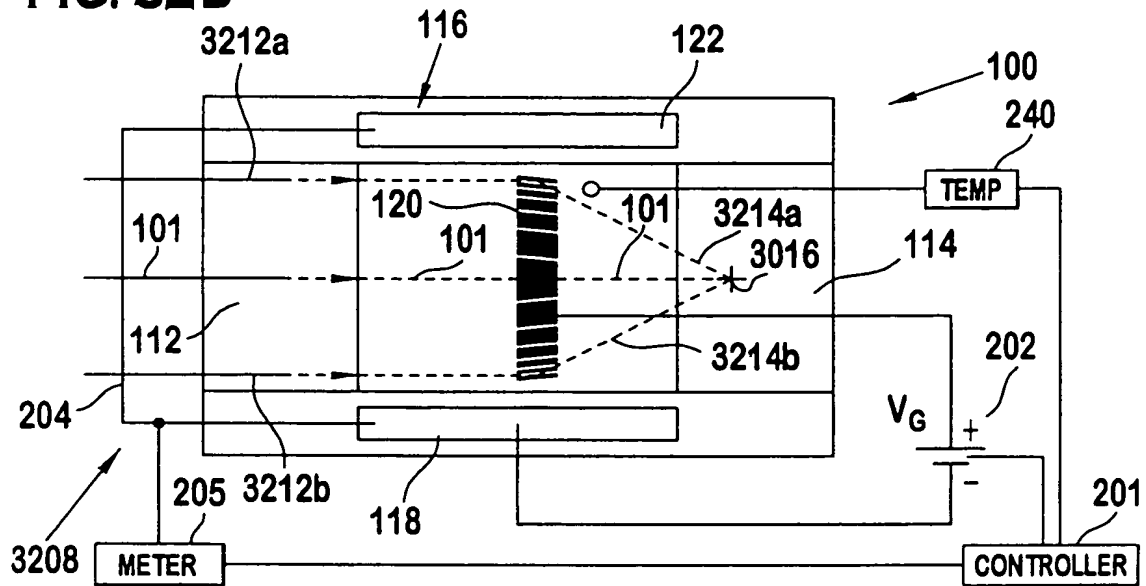


FIG. 32A

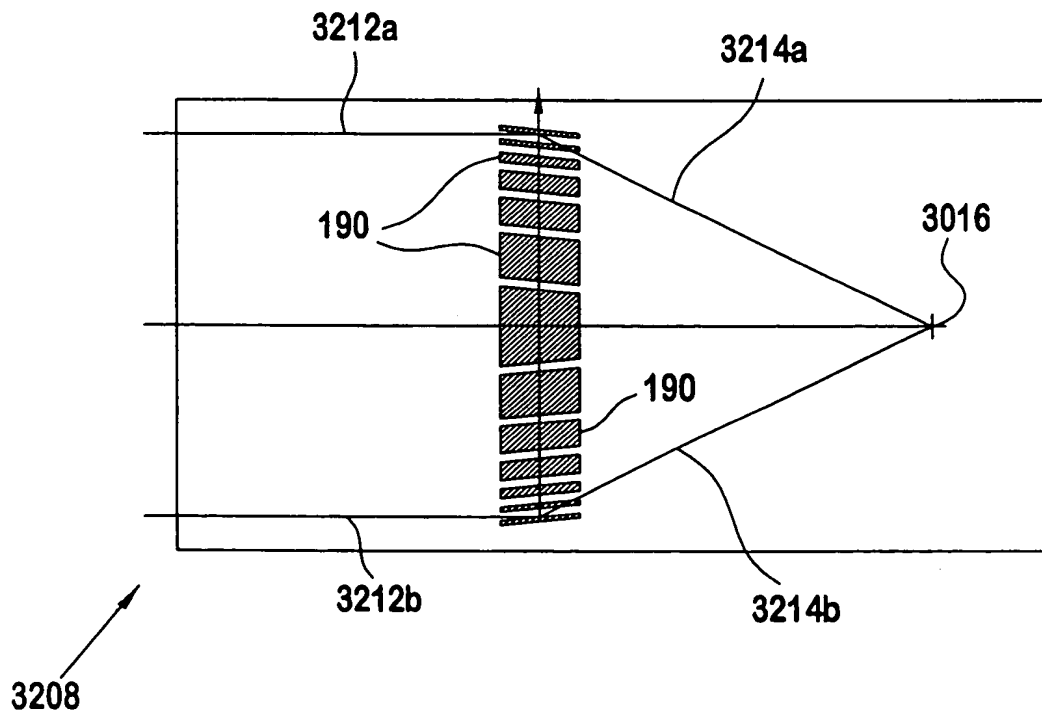




FIG. 33

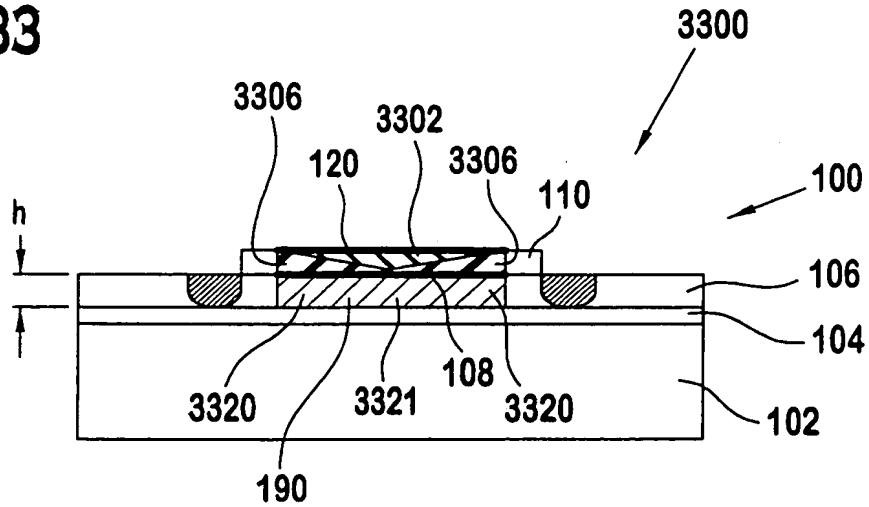


FIG. 34

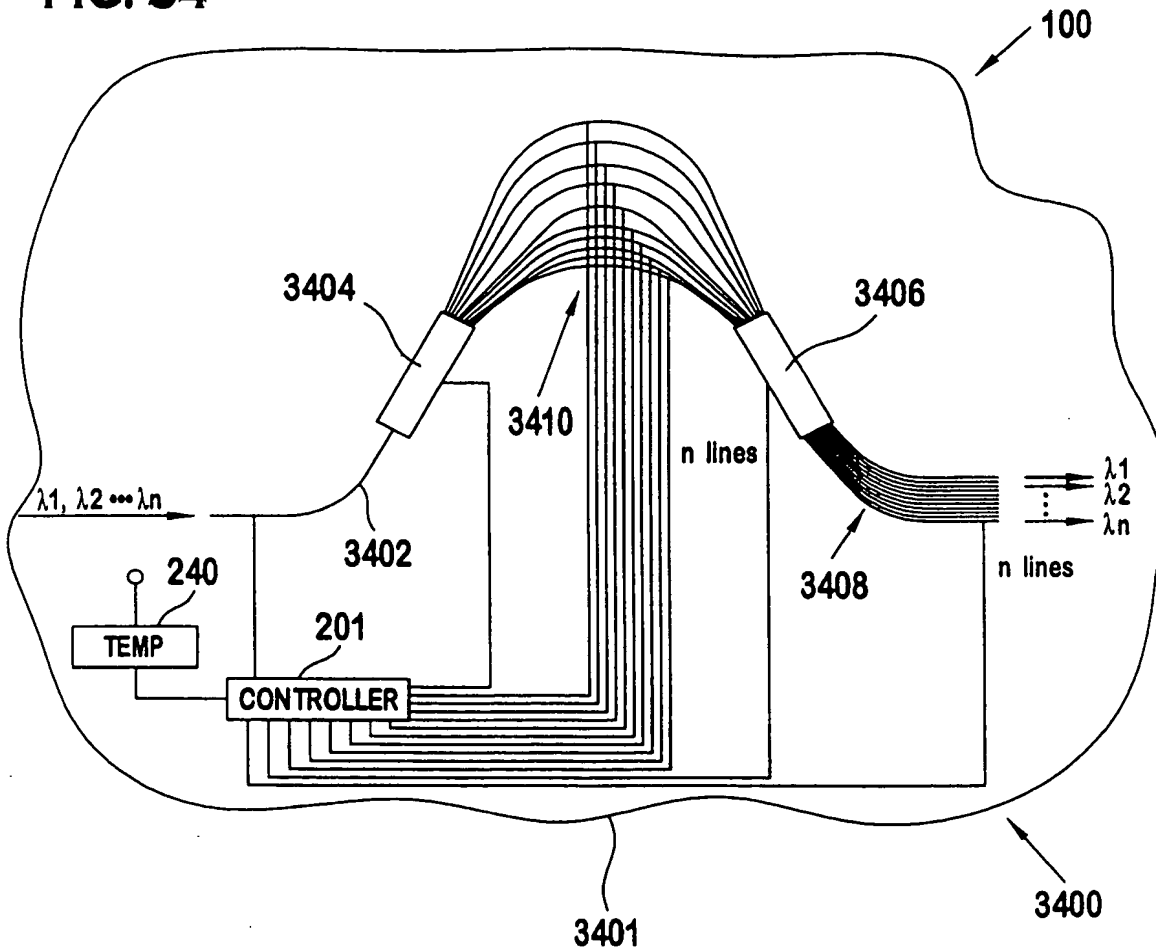


FIG. 35

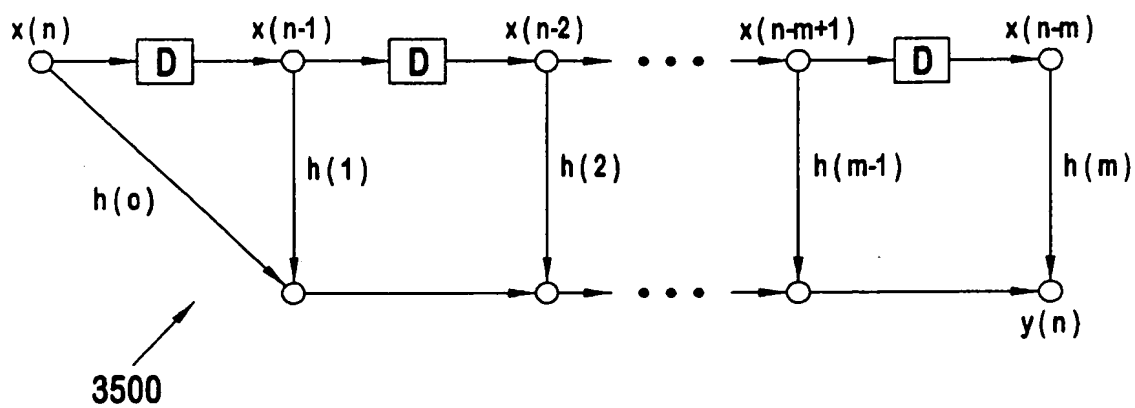


FIG. 36

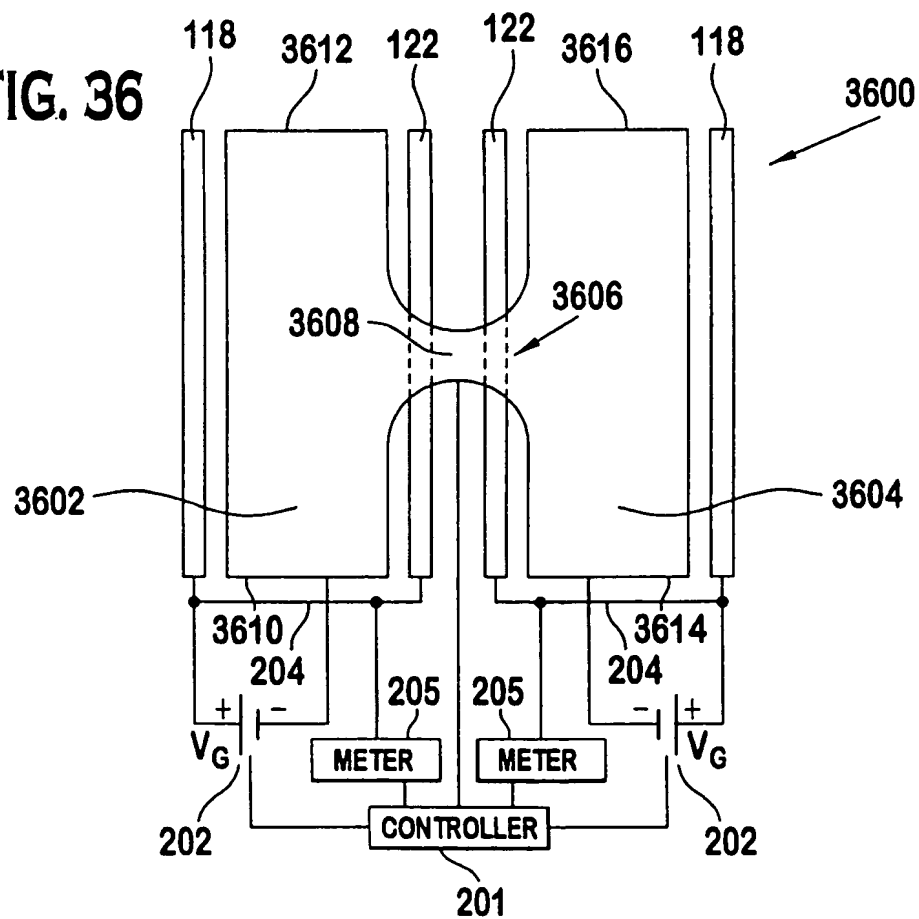


FIG. 37

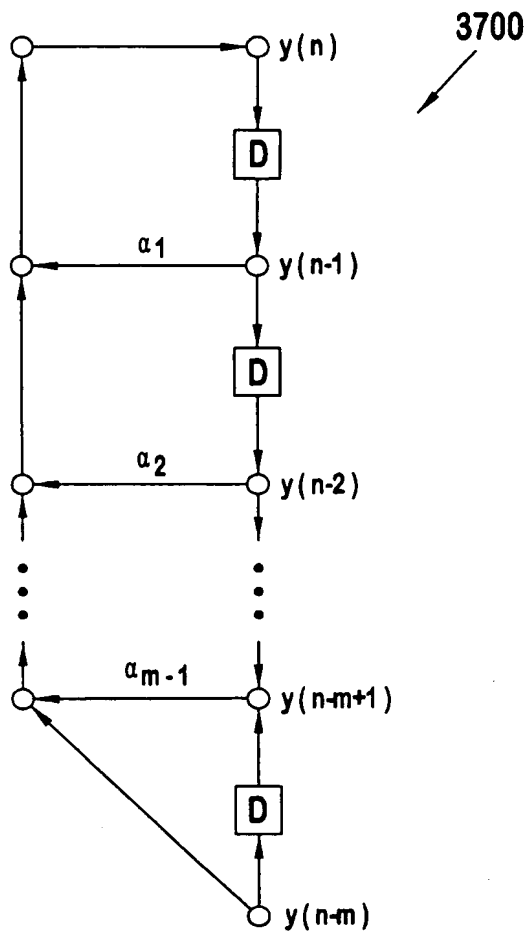


FIG. 38

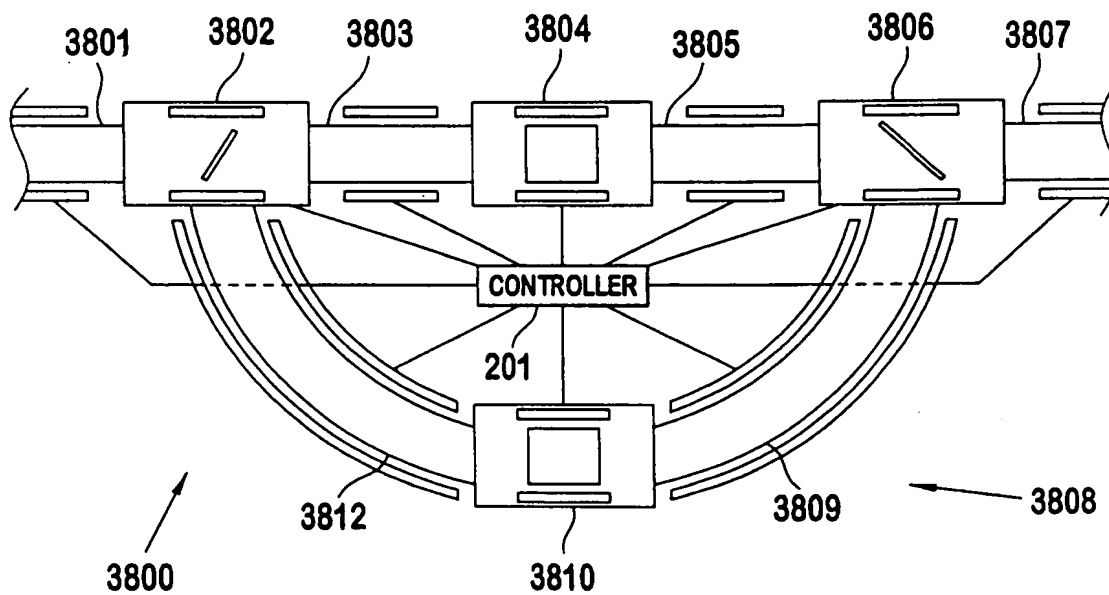


FIG. 39

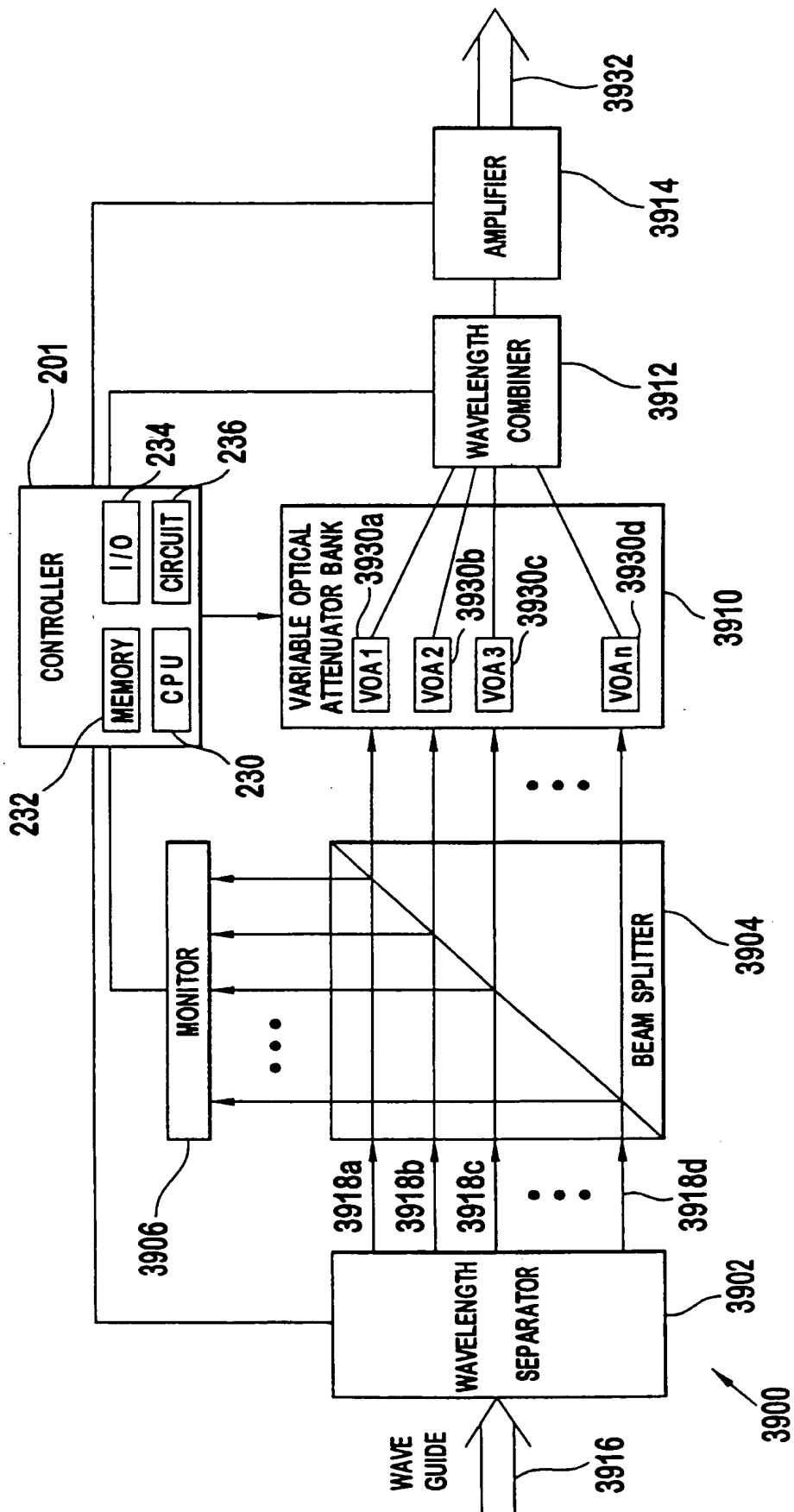


FIG. 40

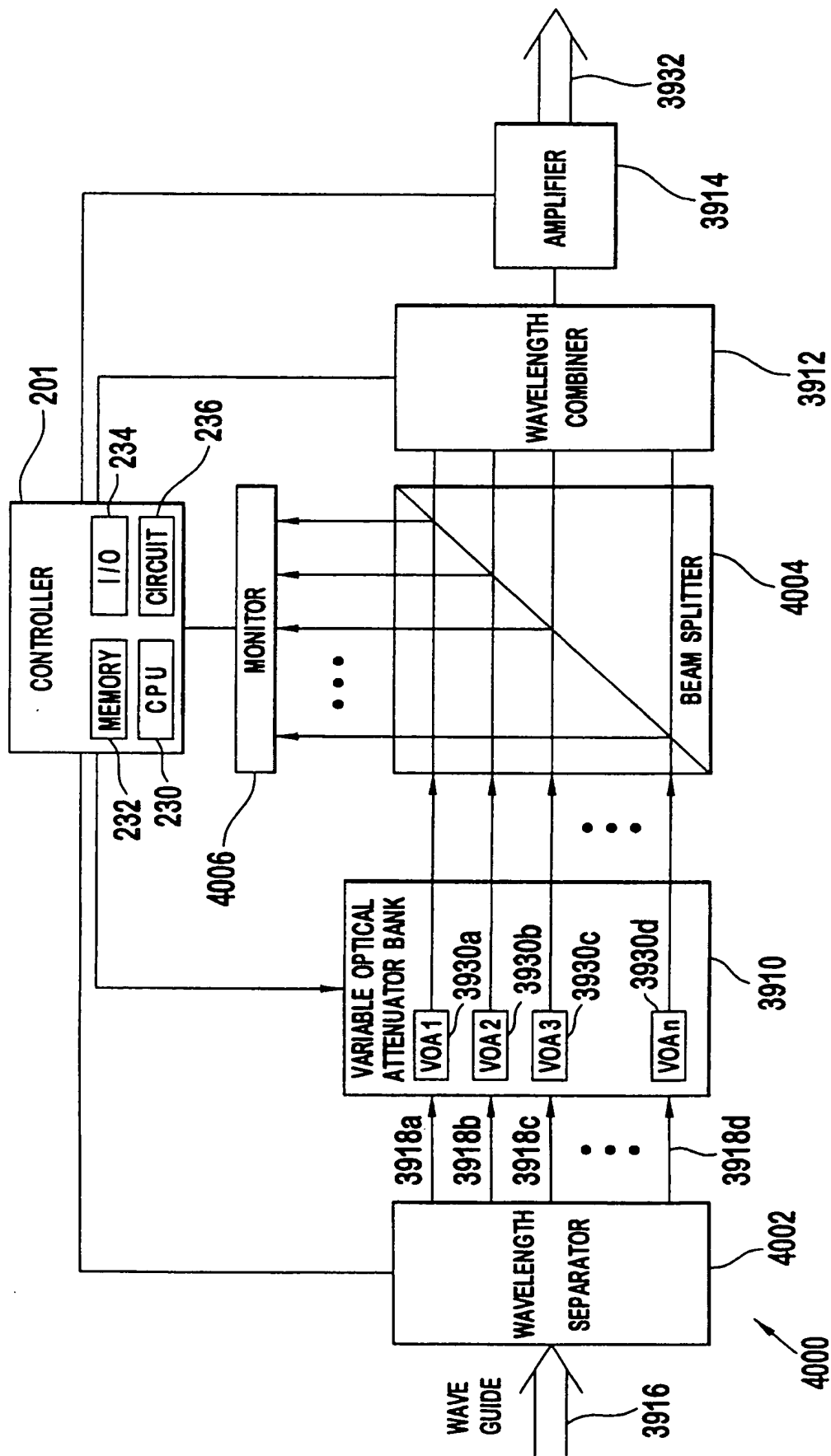


FIG. 41

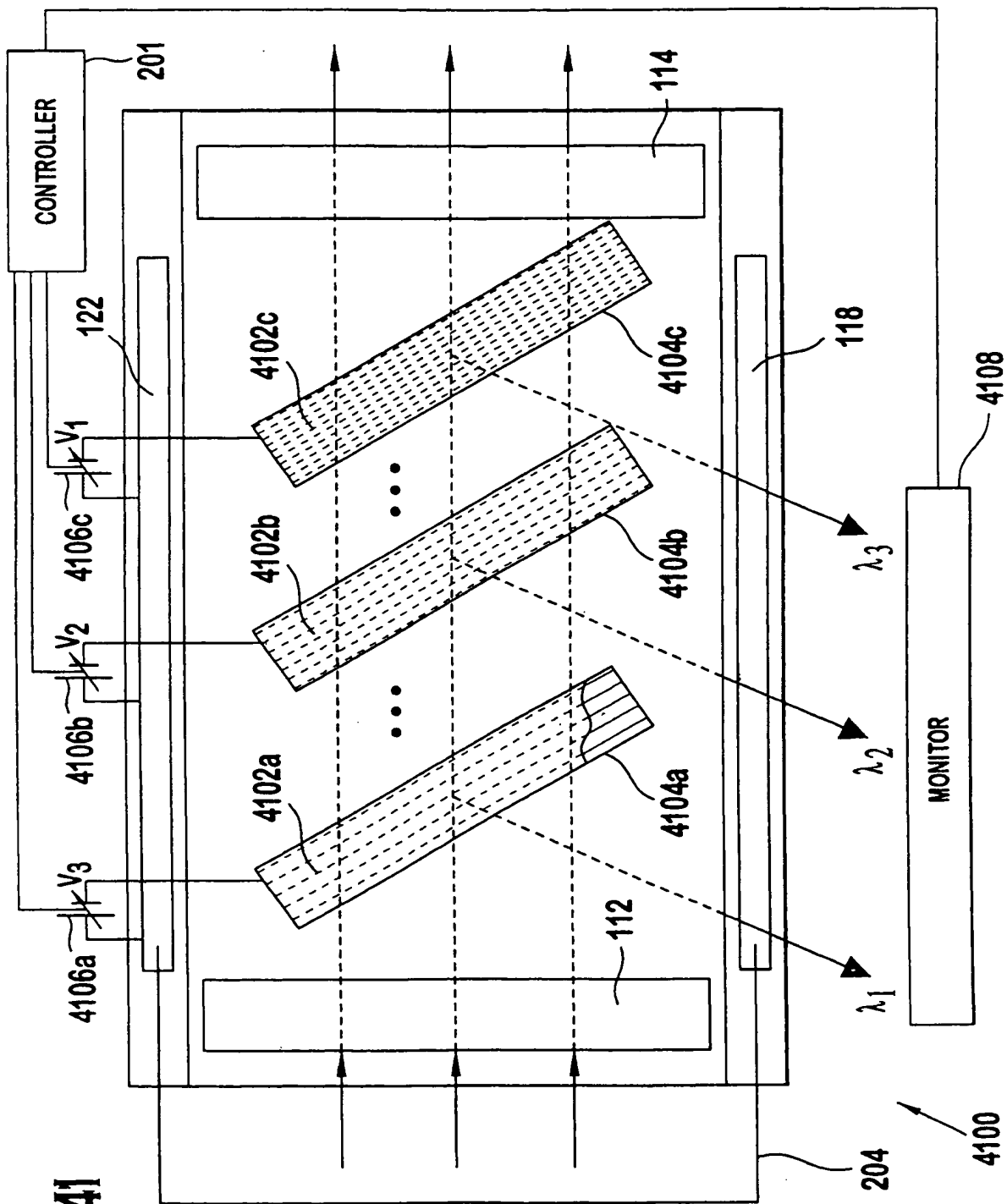




FIG. 42

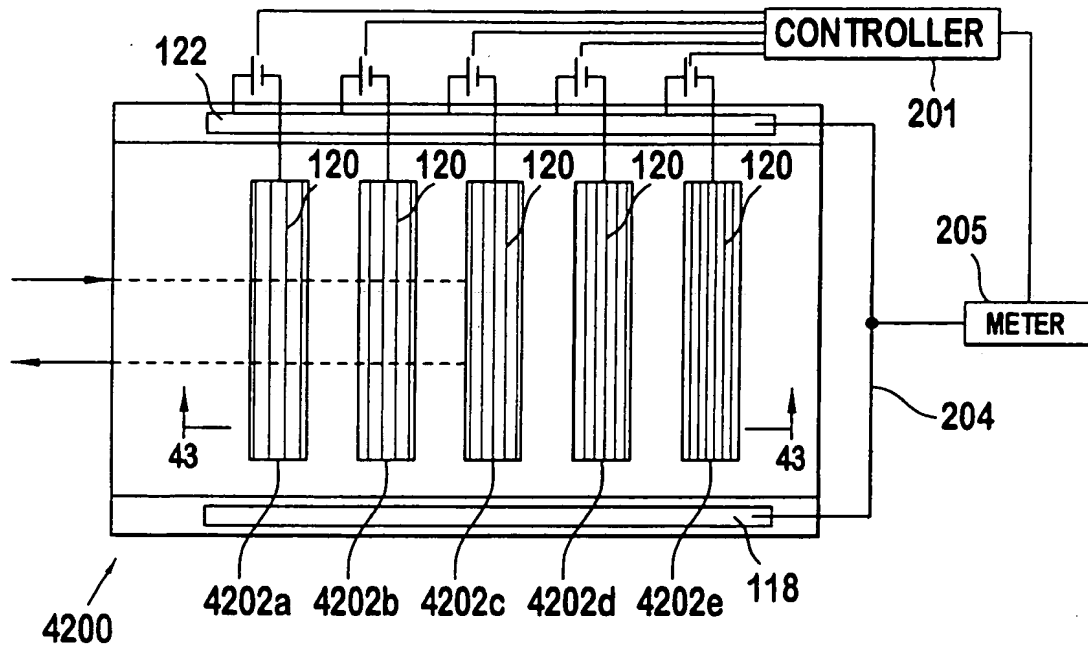
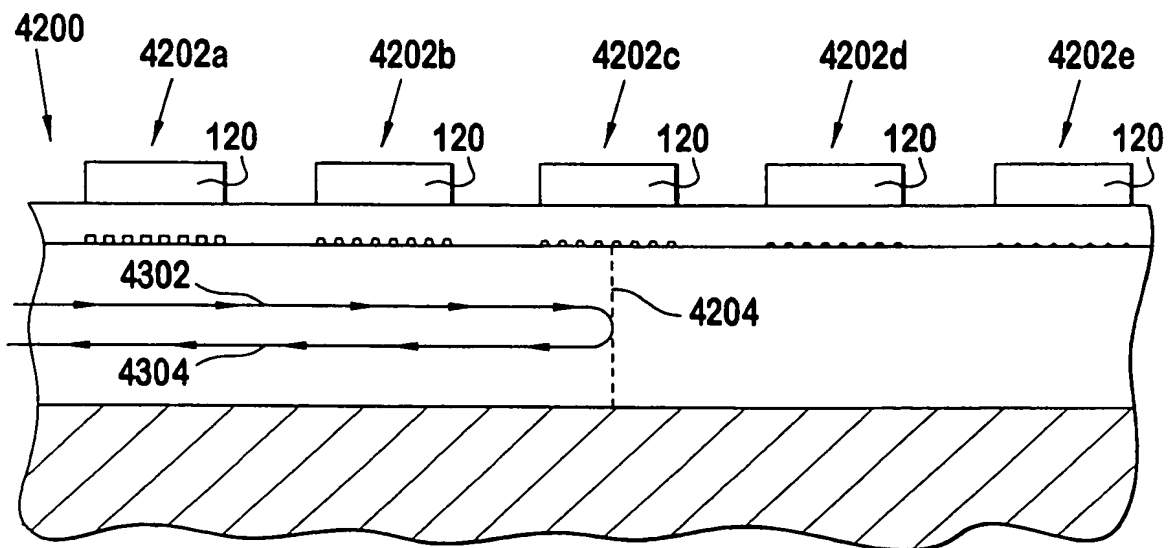


FIG. 43



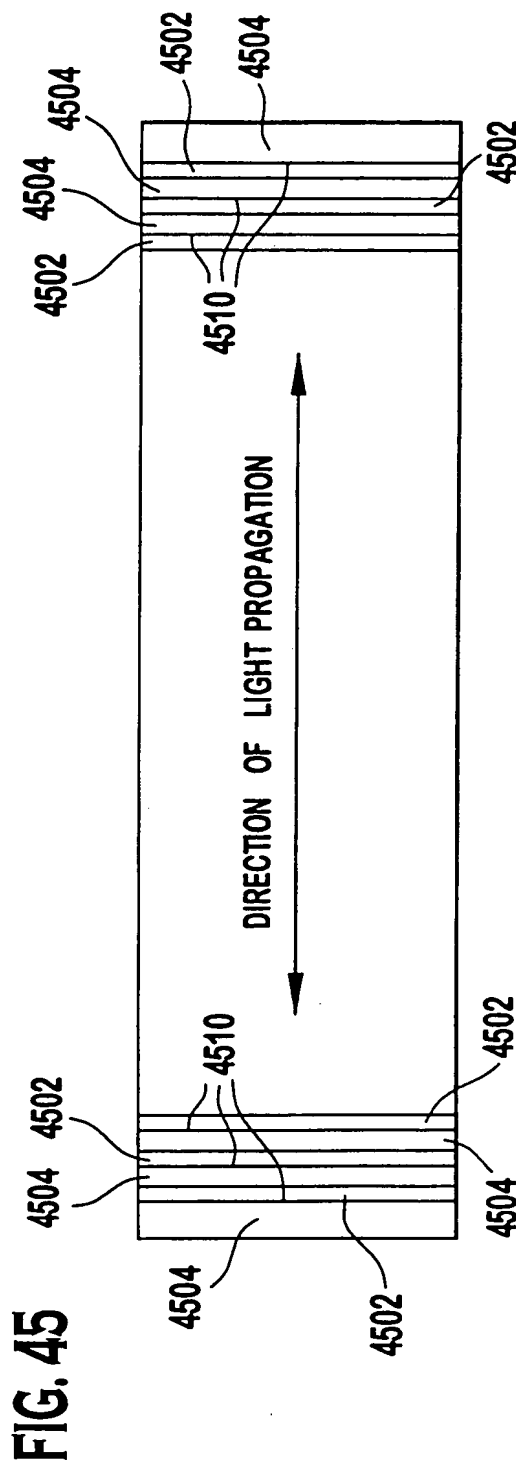
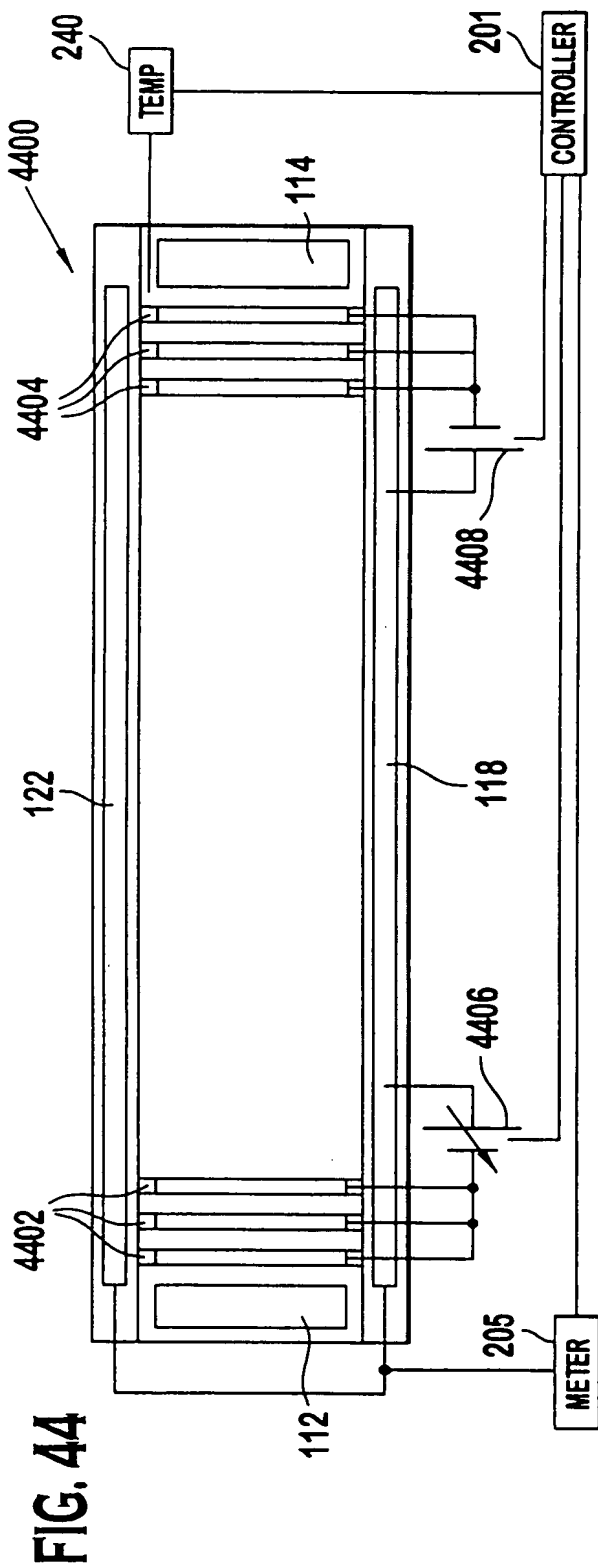


FIG. 46

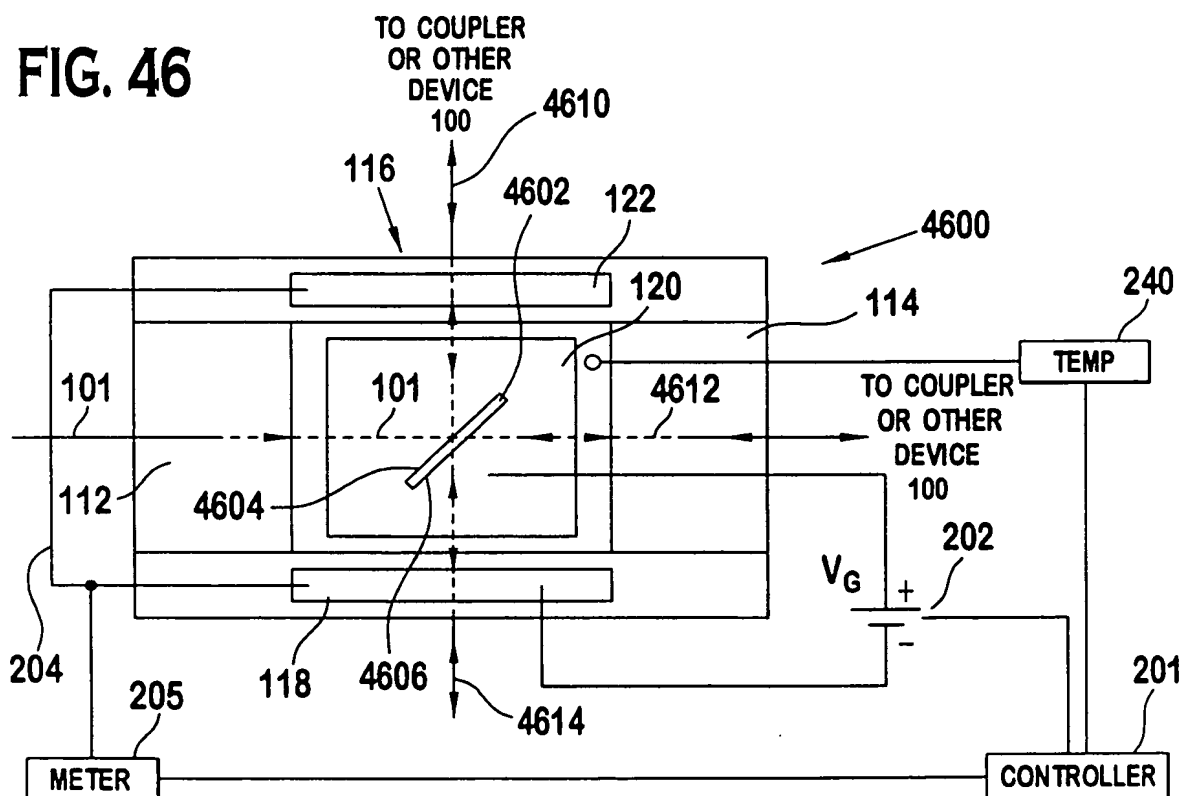


FIG. 47

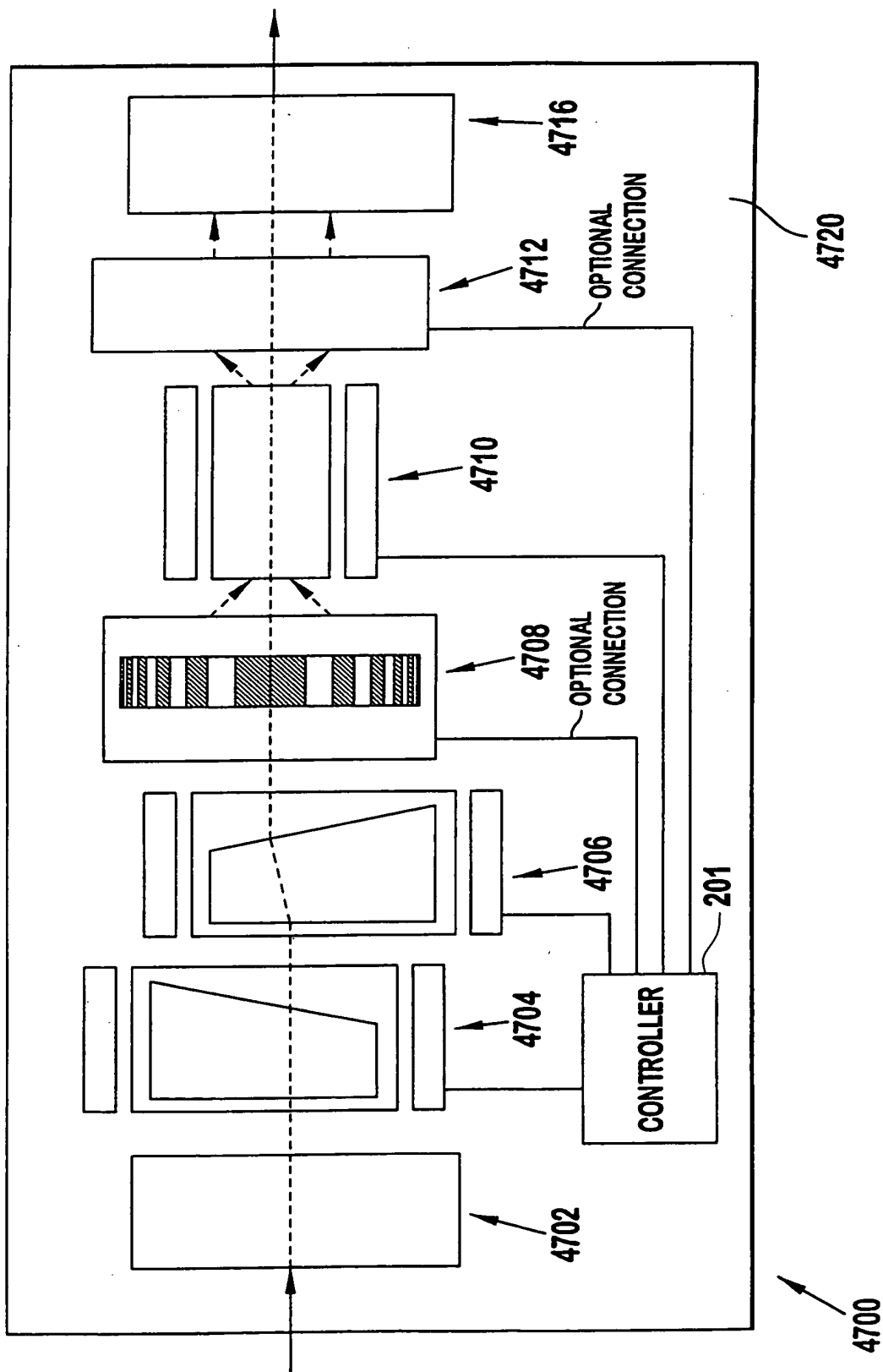


FIG. 48

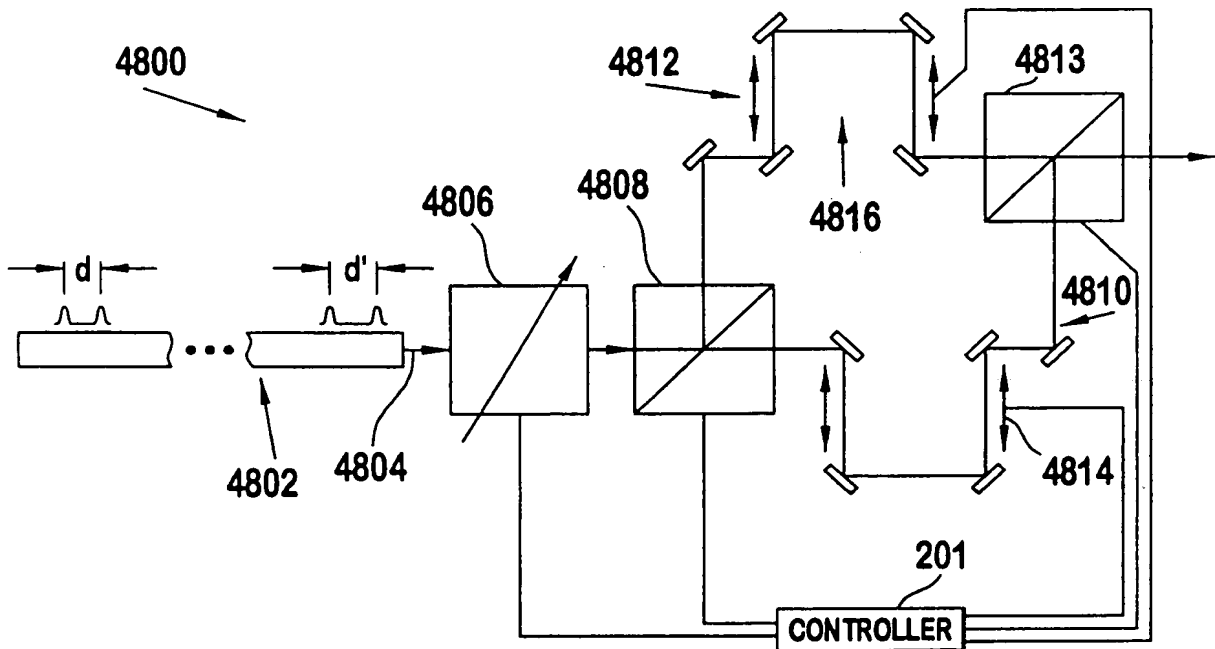
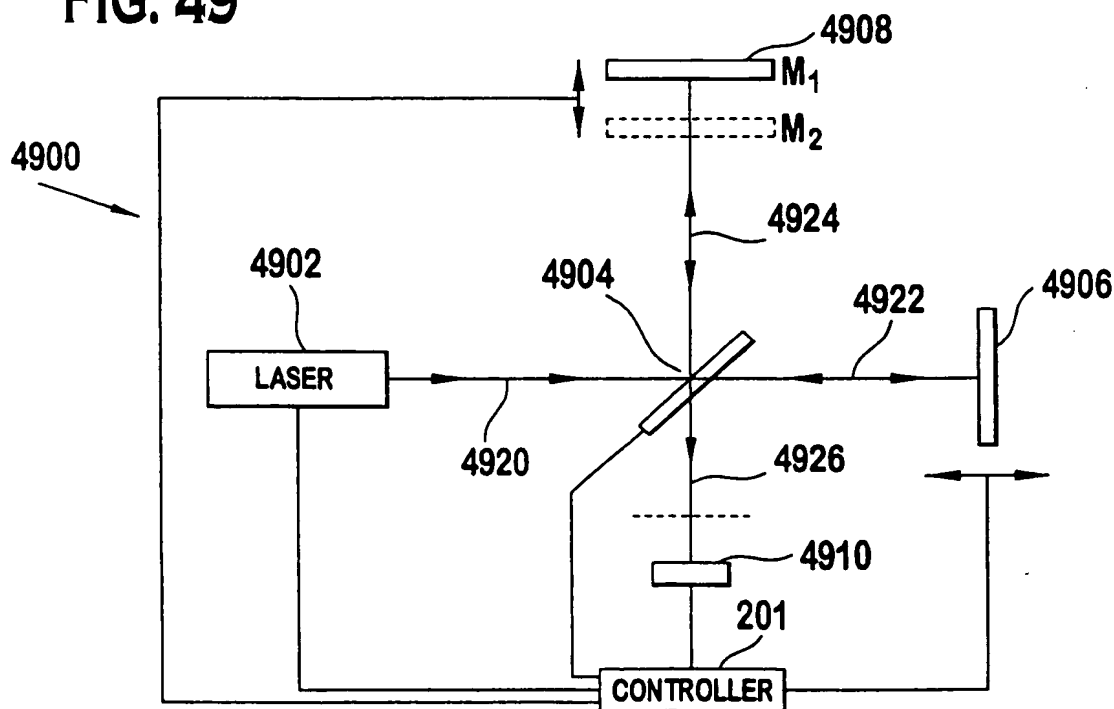


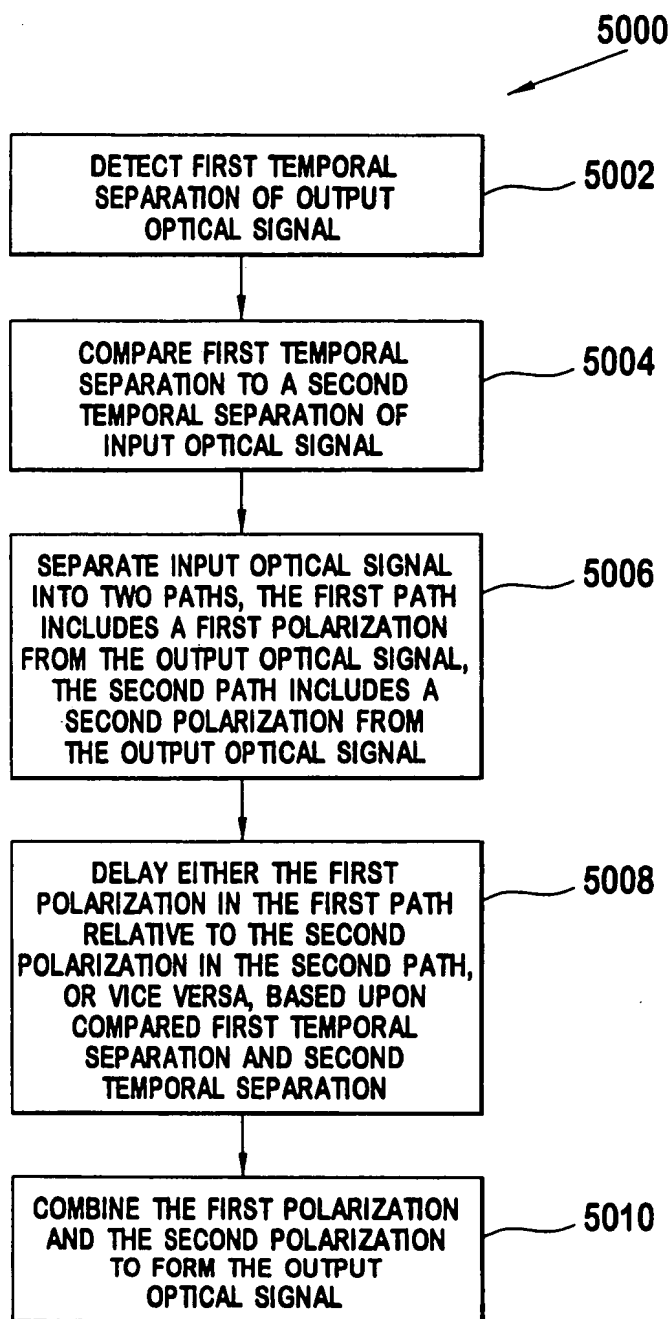
FIG. 49





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FIG. 50



[illegible]

FIG. 52

103

112

REGIONS OF OPTICAL INPUT OR OUTPUT

ELECTRONIC AND ON-CHIP PHOTONICS

5101

ELECTRICAL INPUT OR OUTPUT REGION 5103

FIG. 53

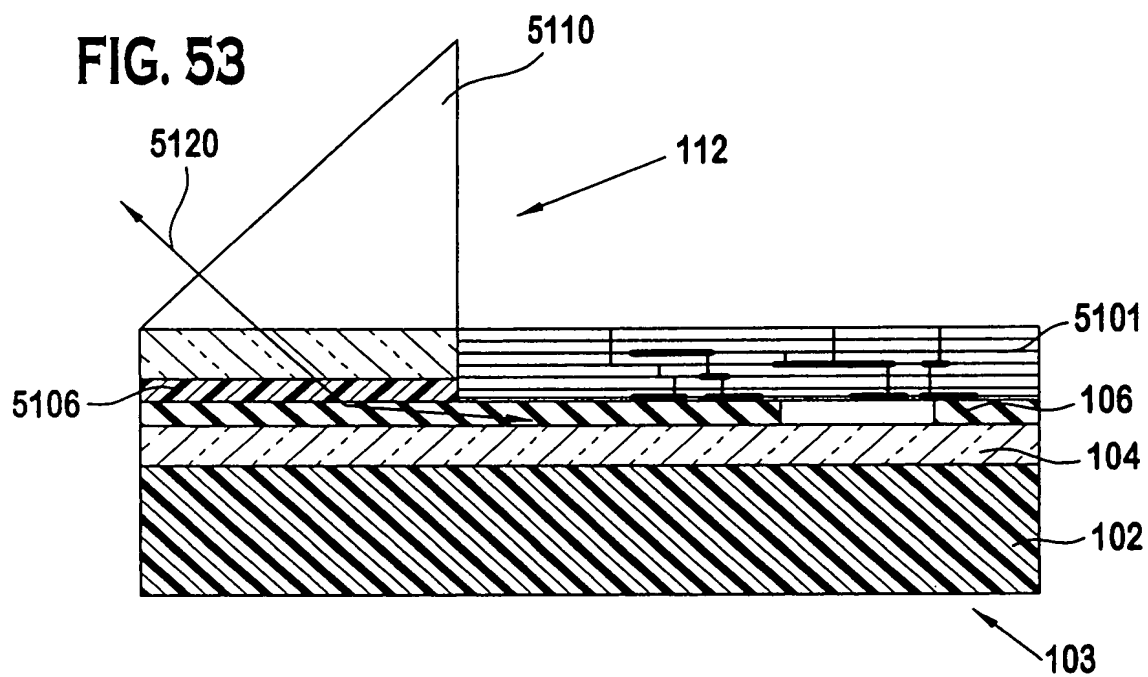
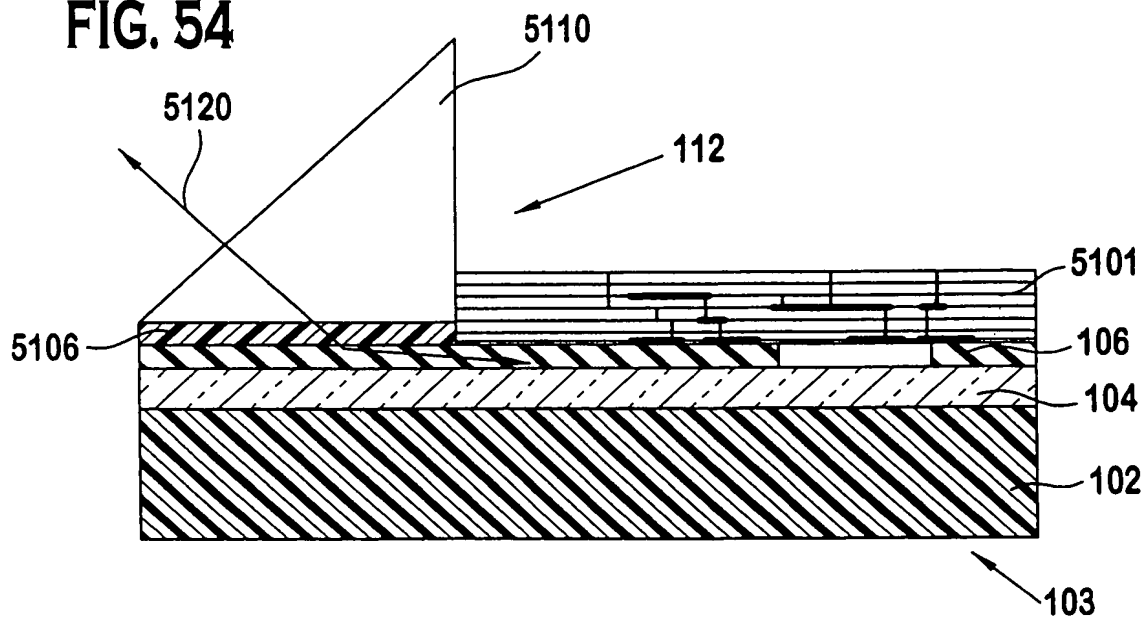


FIG. 54



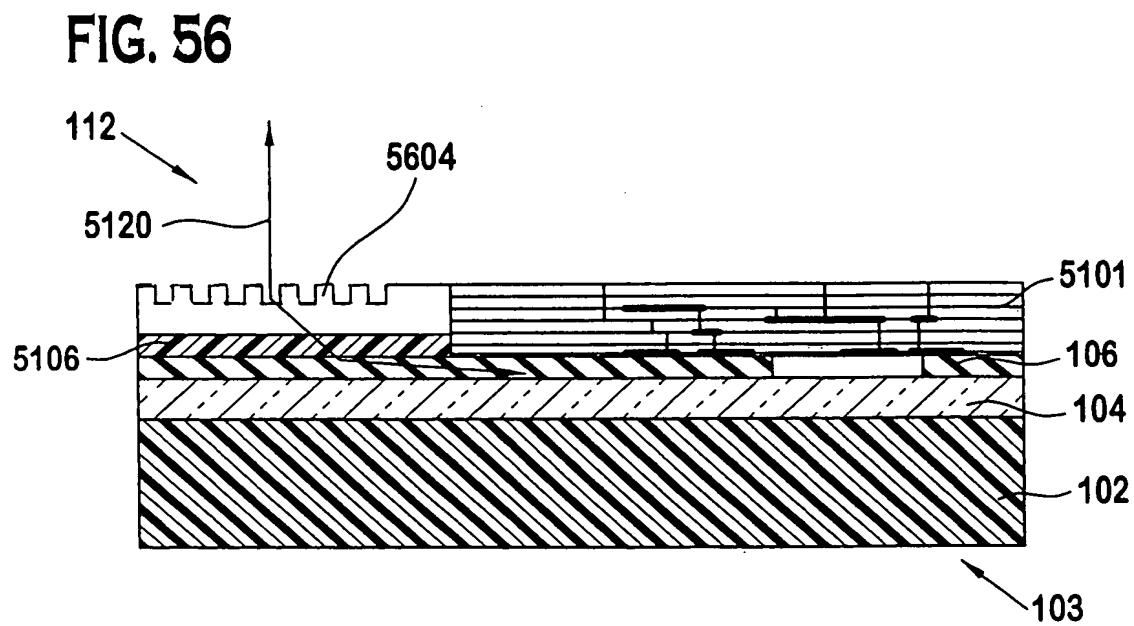
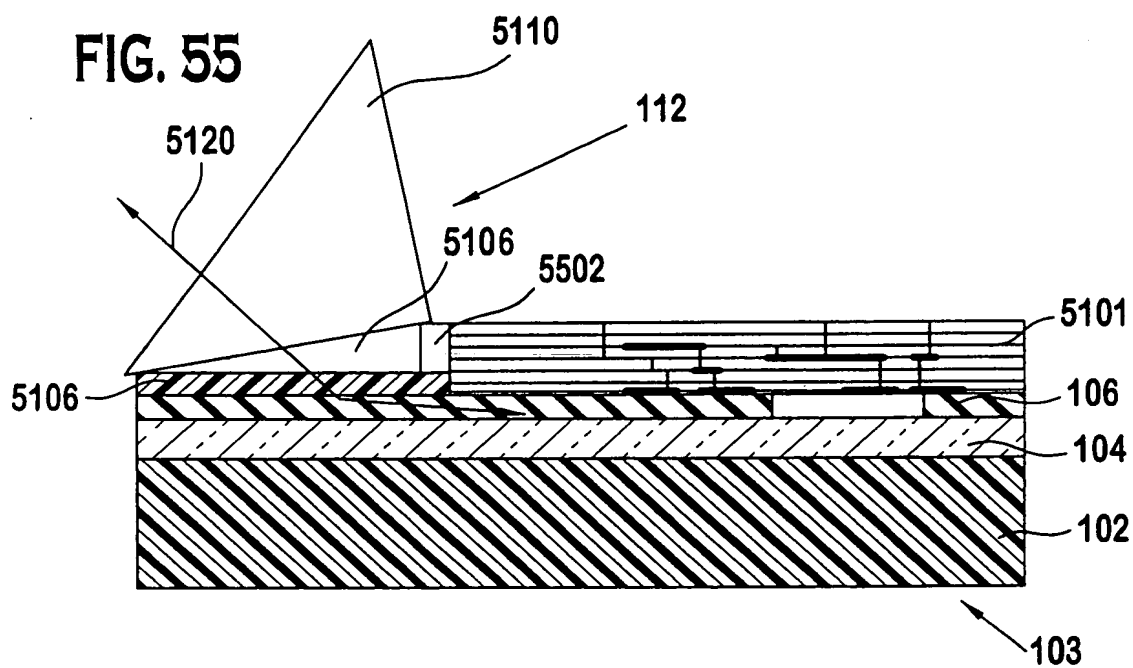


FIG. 57

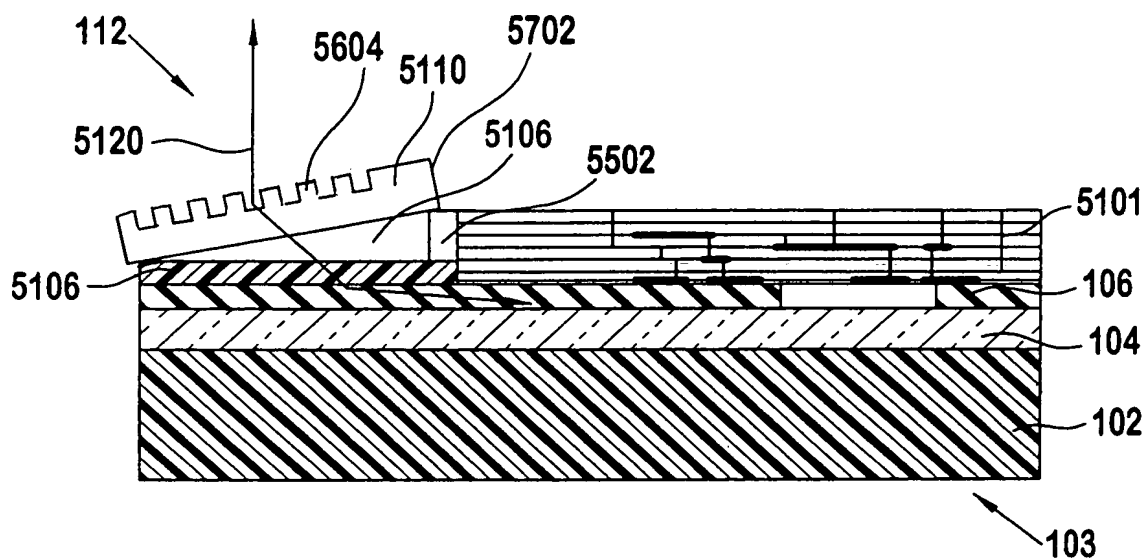
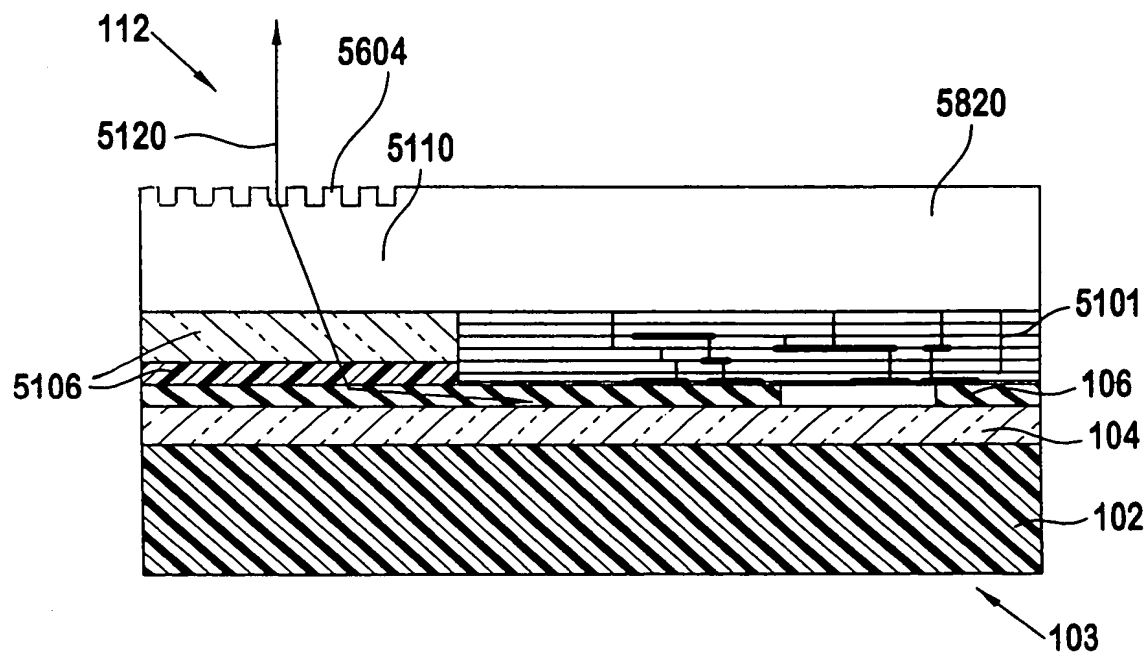


FIG. 58



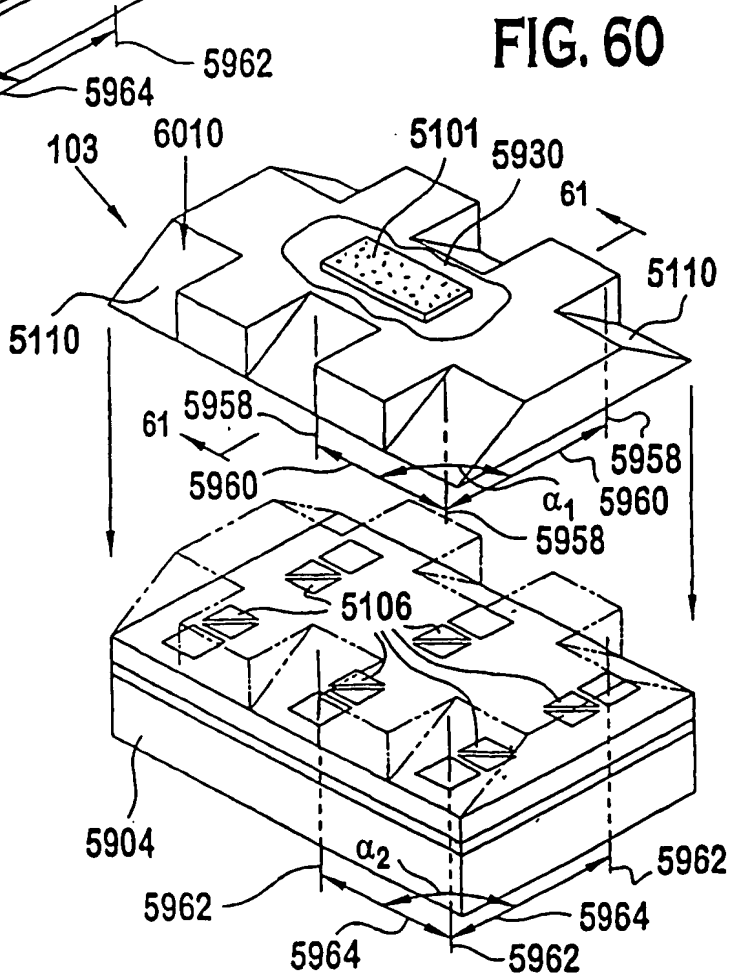
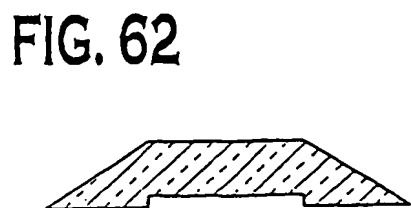
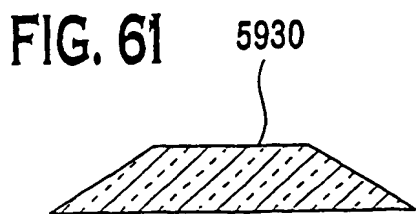
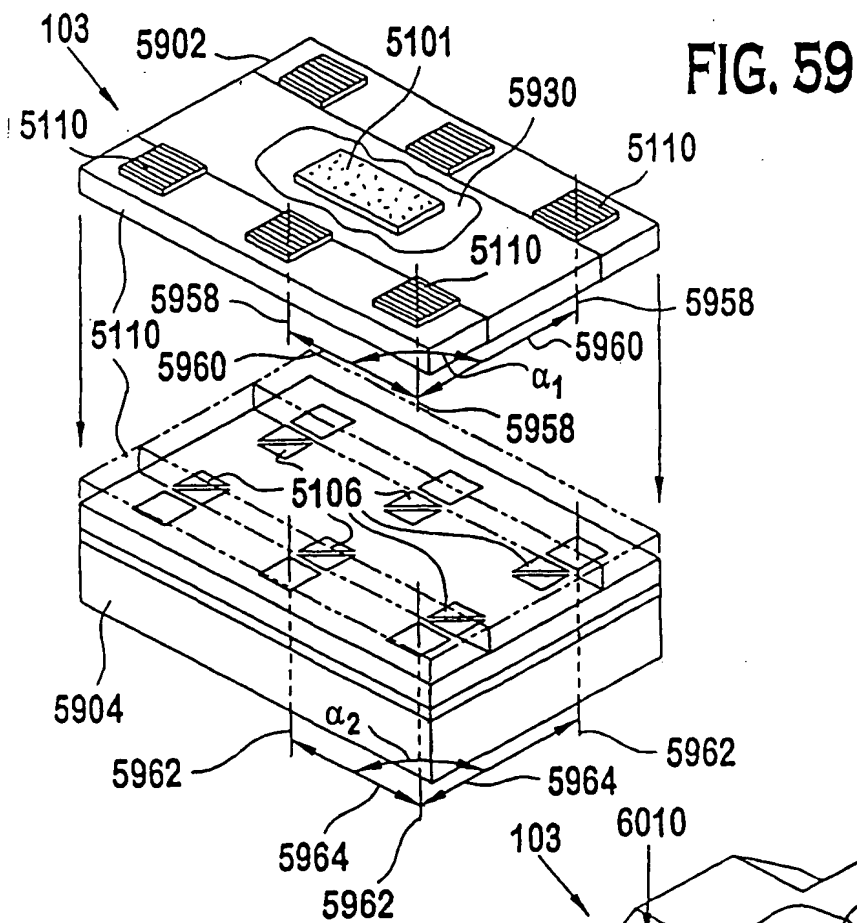


FIG. 63A

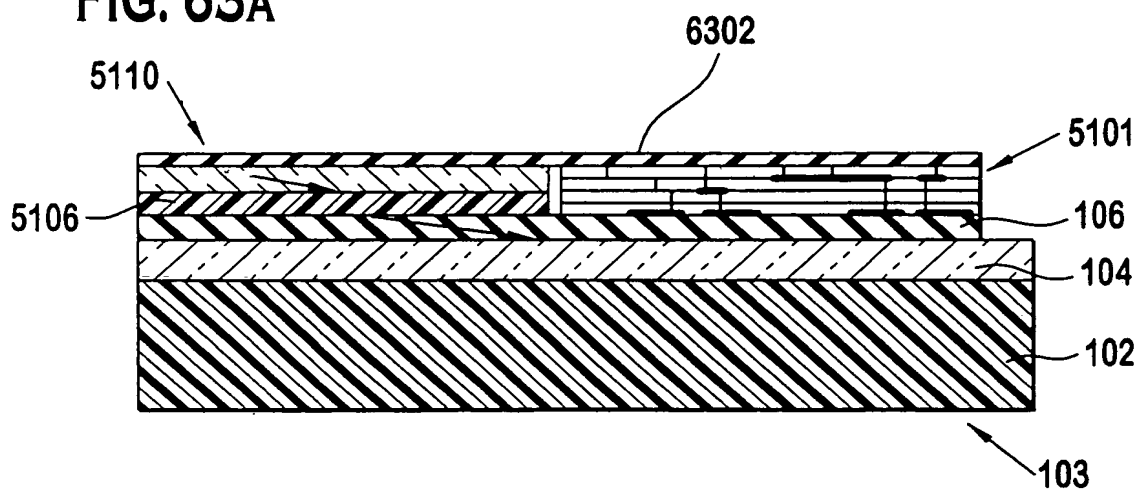
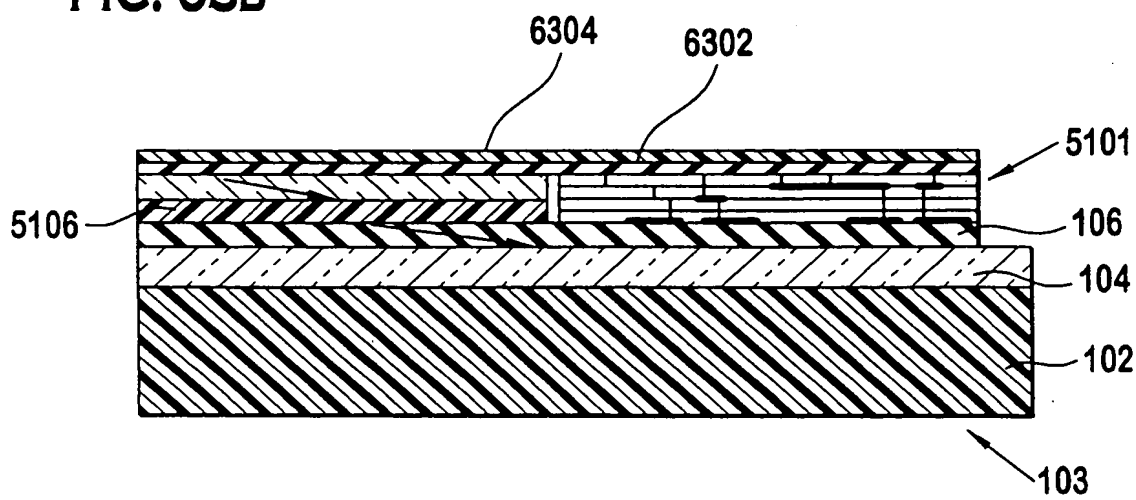


FIG. 63B





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FIG. 63c

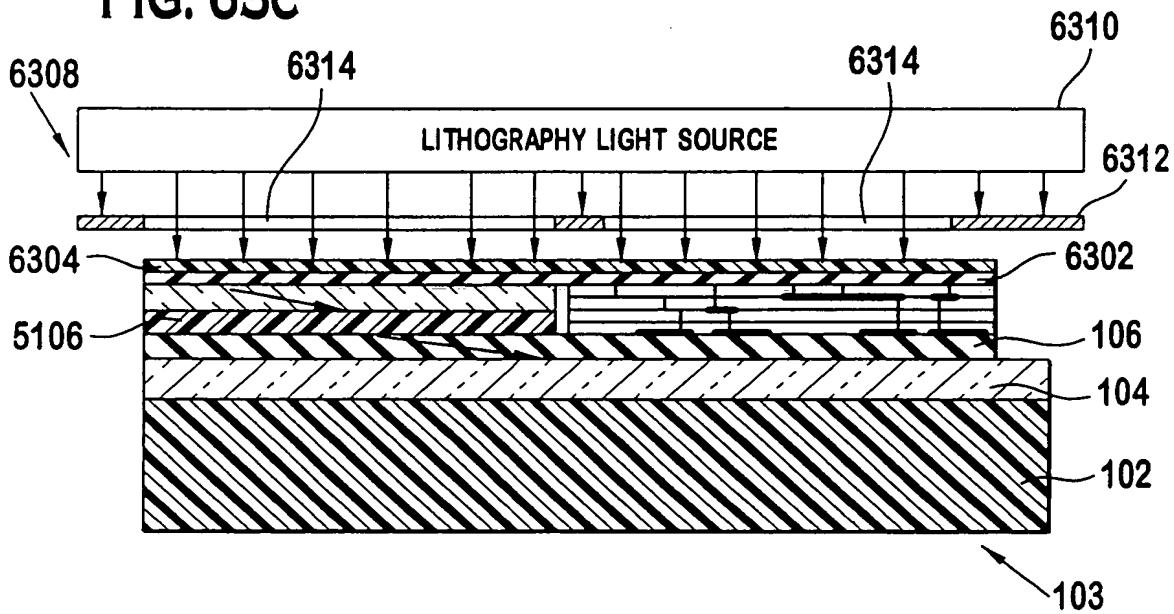
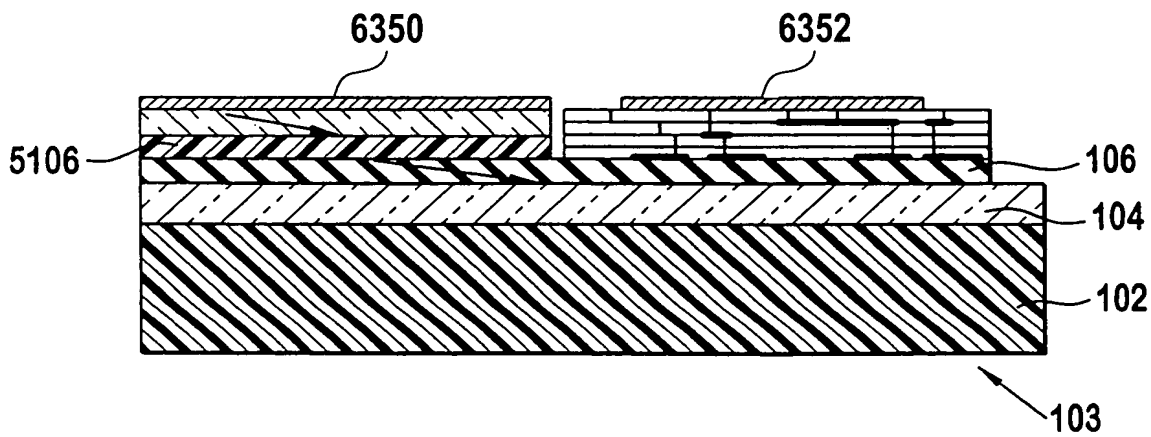


FIG. 63D





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FIG. 64

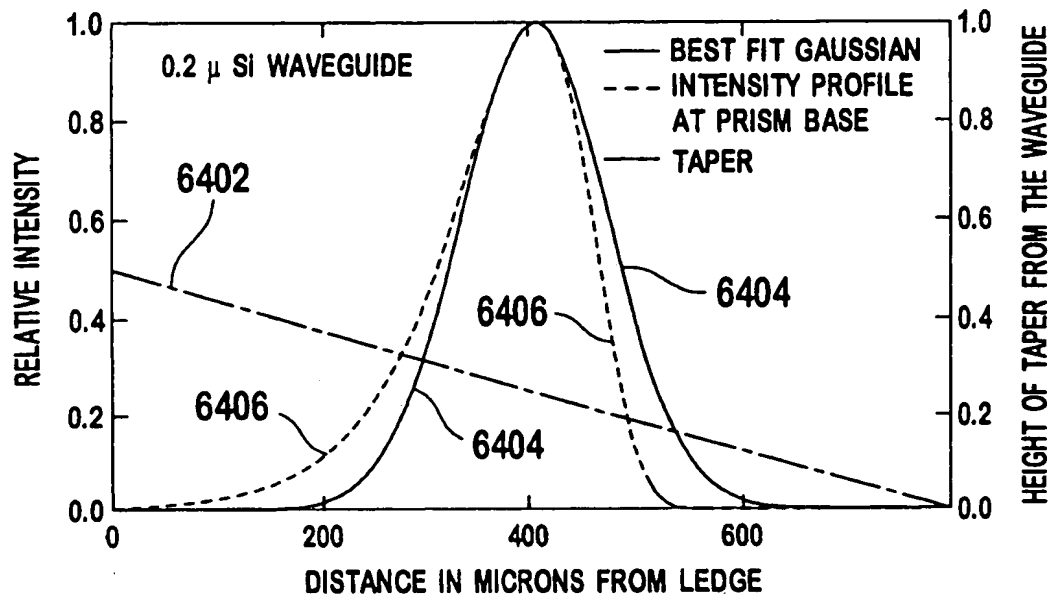


FIG. 65

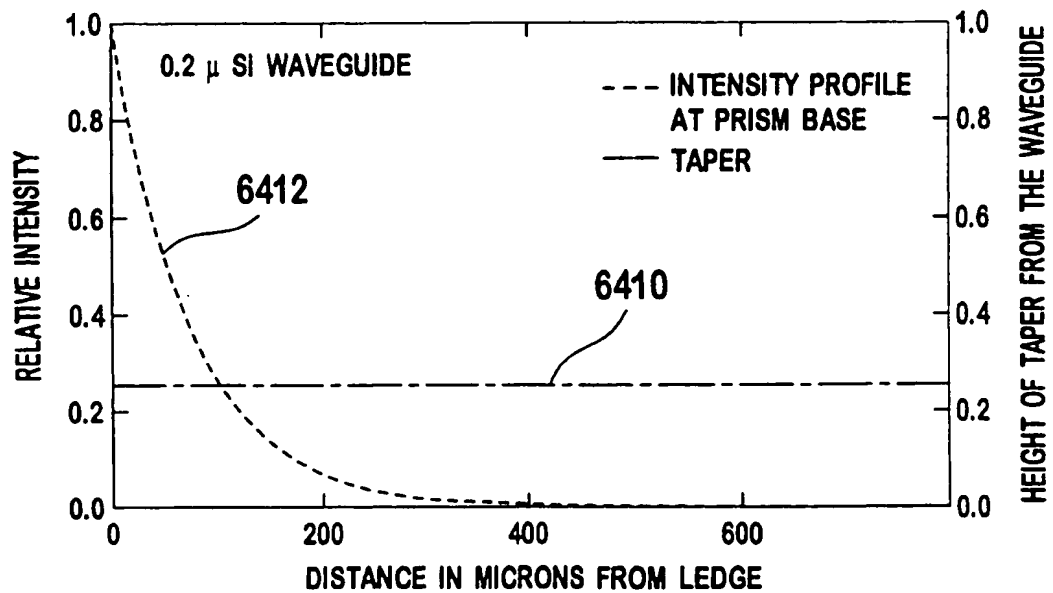


FIG. 66

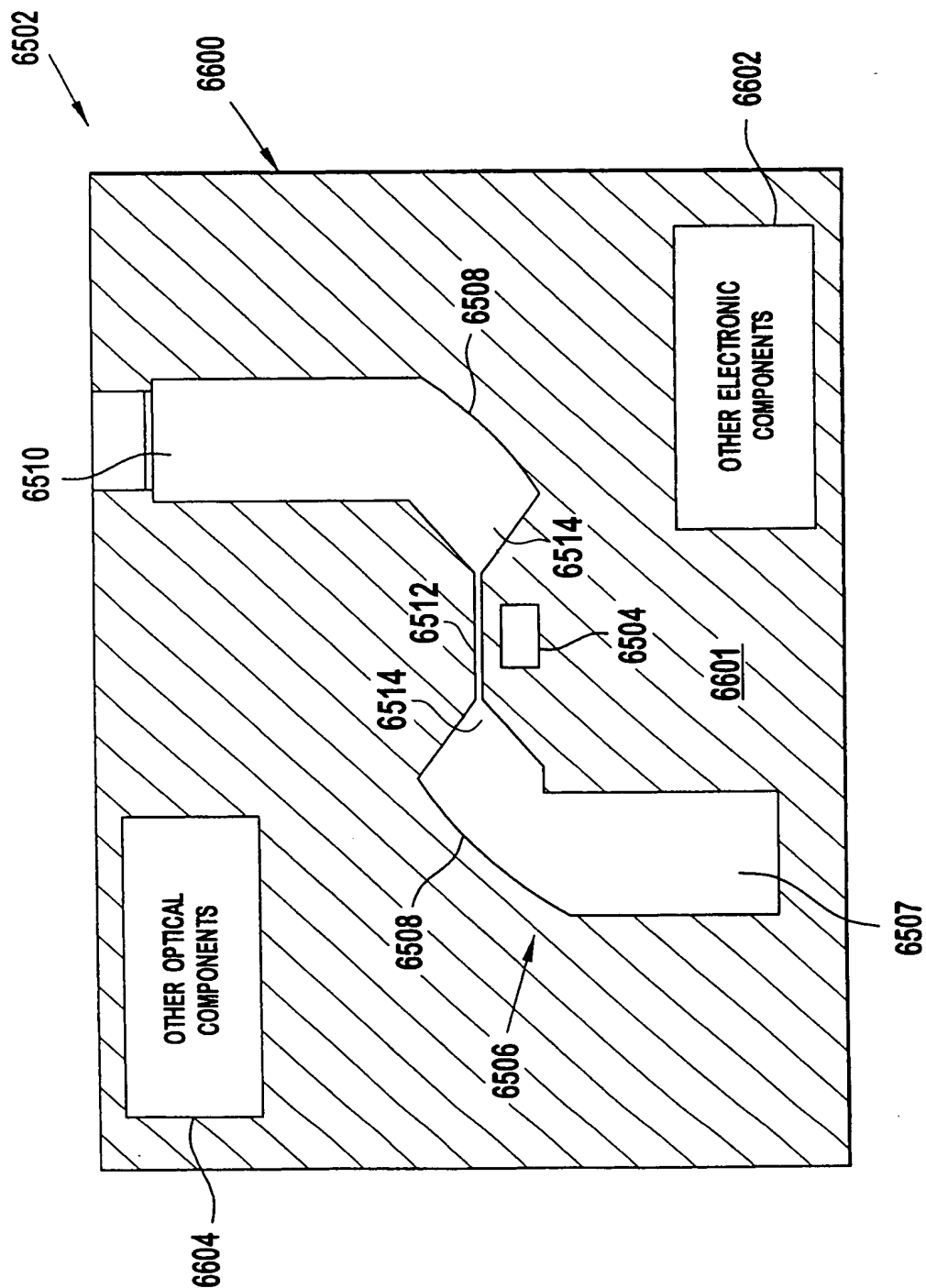




FIG. 67

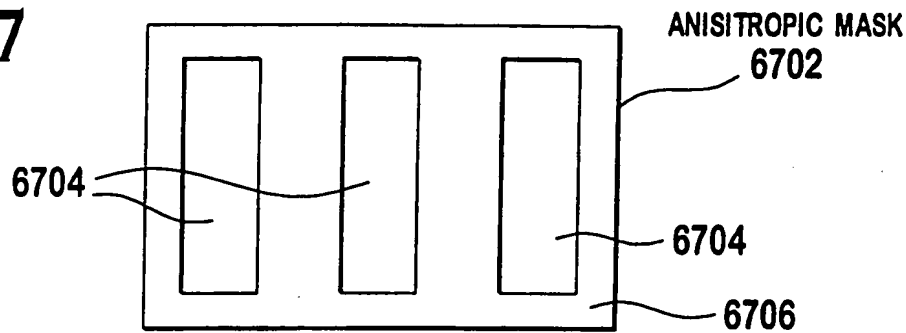


FIG. 68A



FIG. 68B

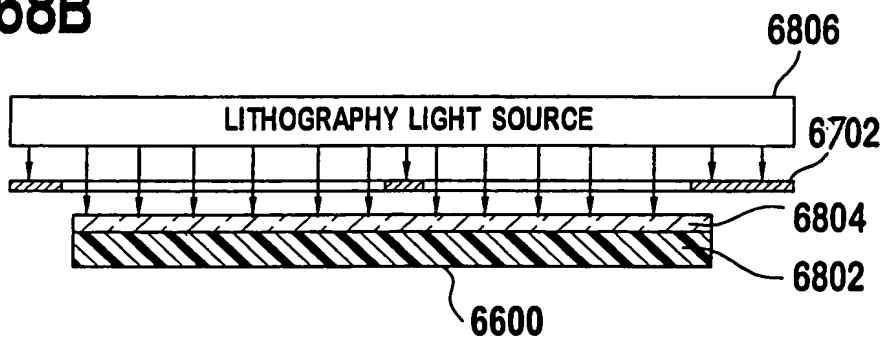


FIG. 68C

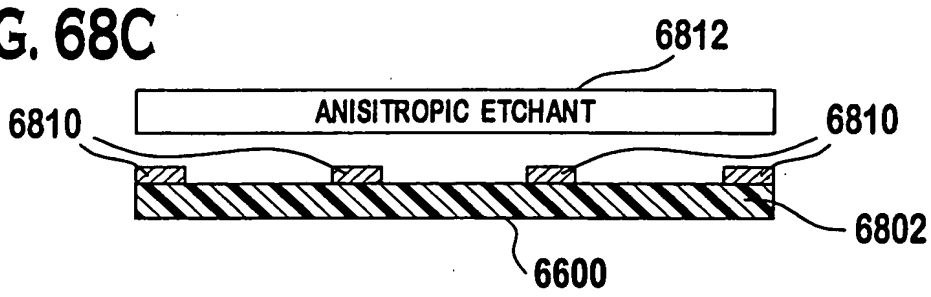


FIG. 68D

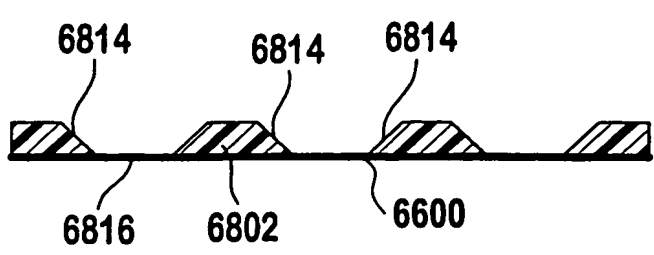


FIG. 69

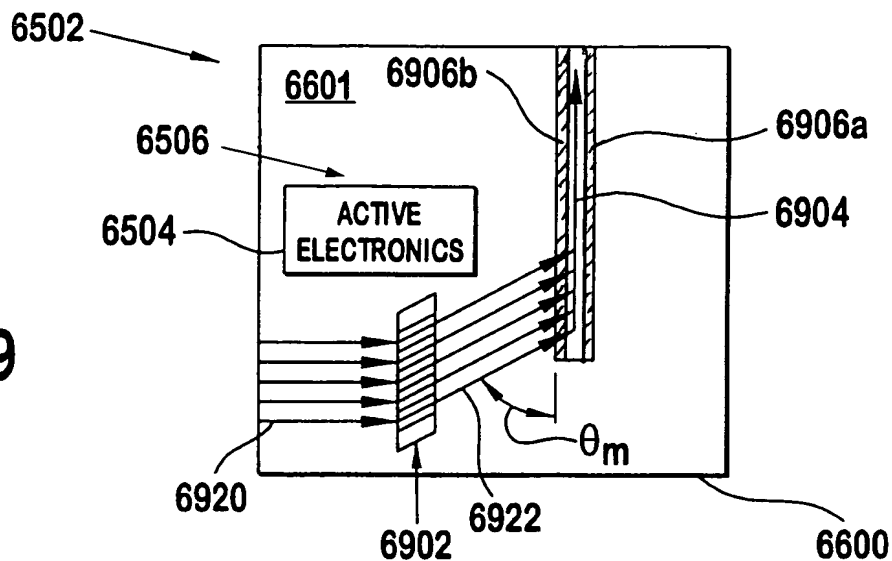


FIG. 70

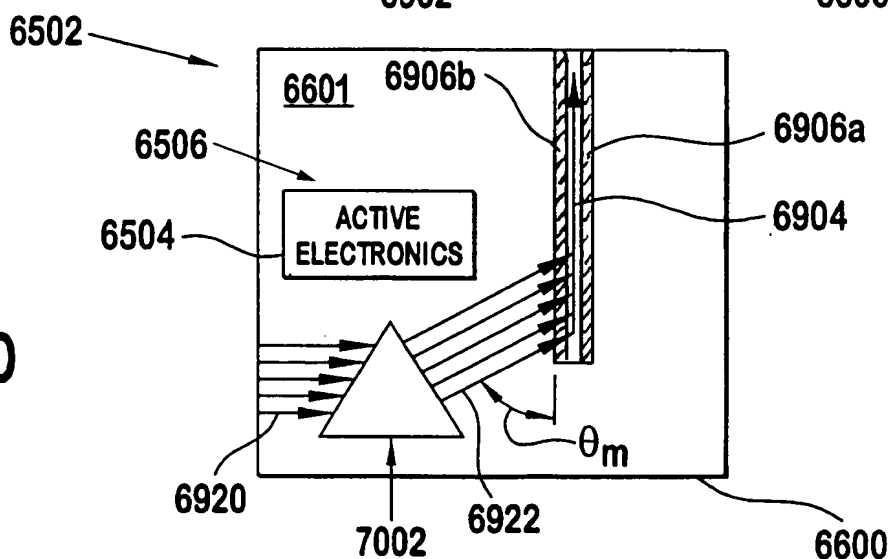


FIG. 71

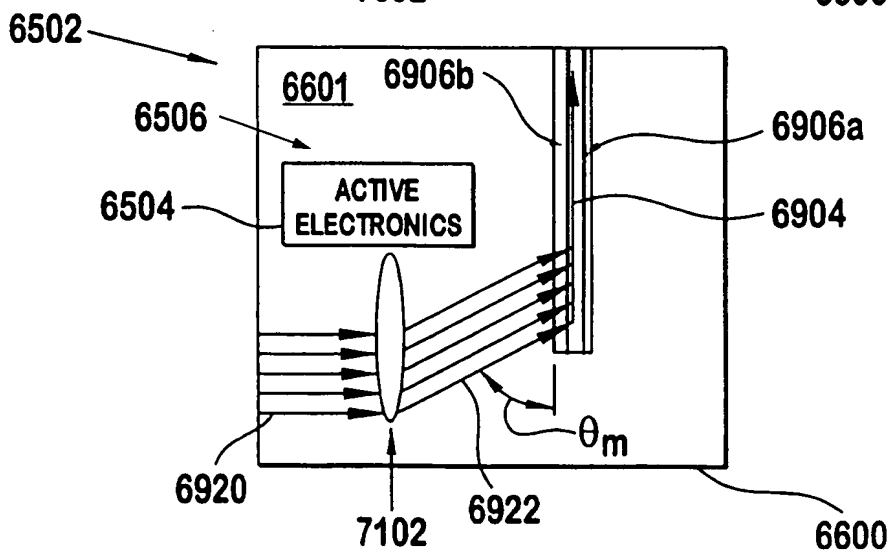
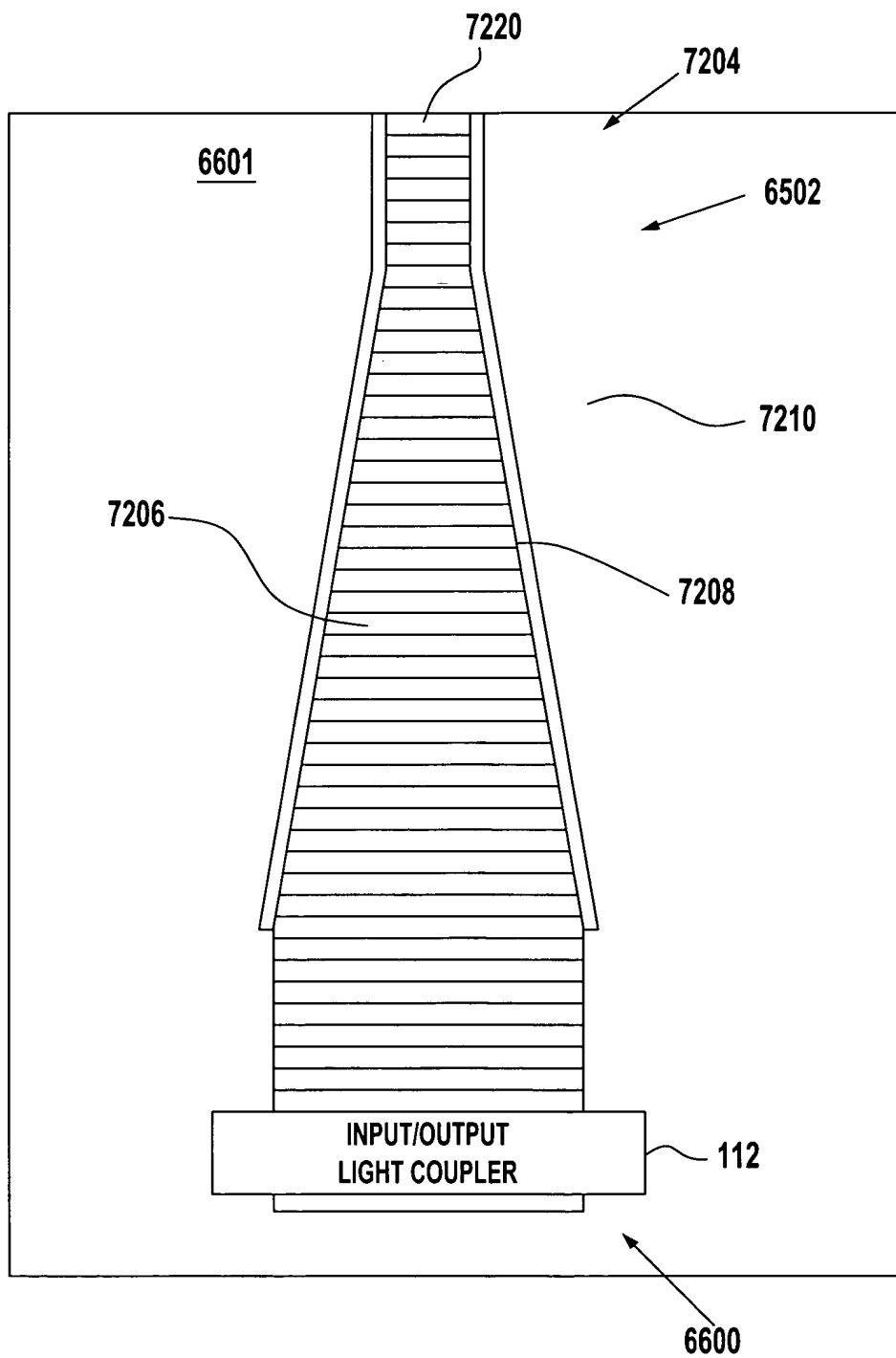


FIG. 72



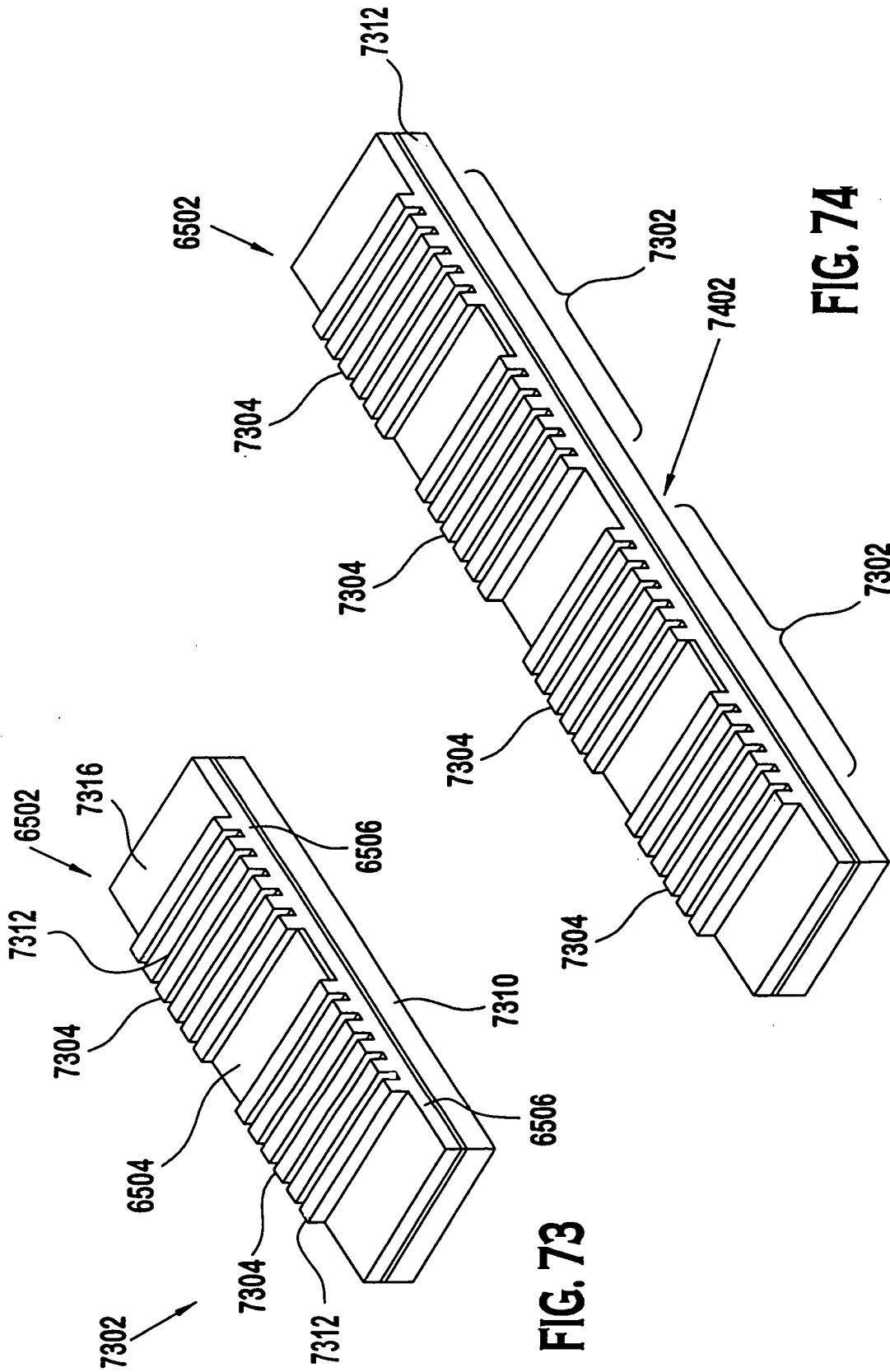


FIG. 73

FIG. 74



FIG. 75

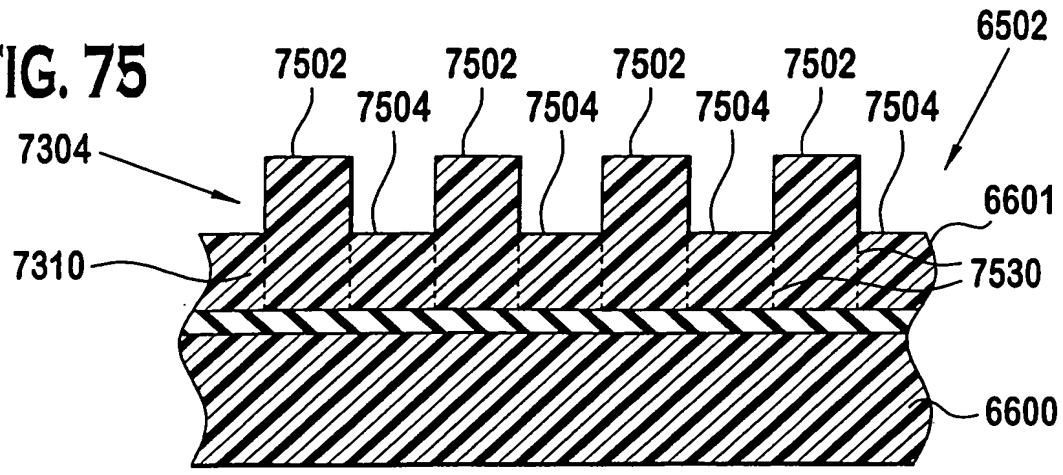


FIG. 76

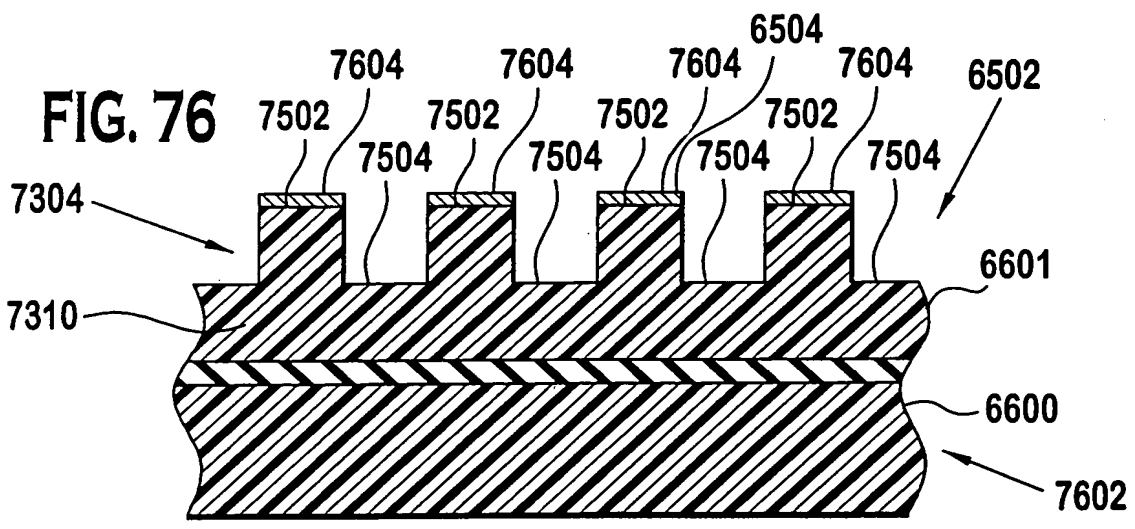
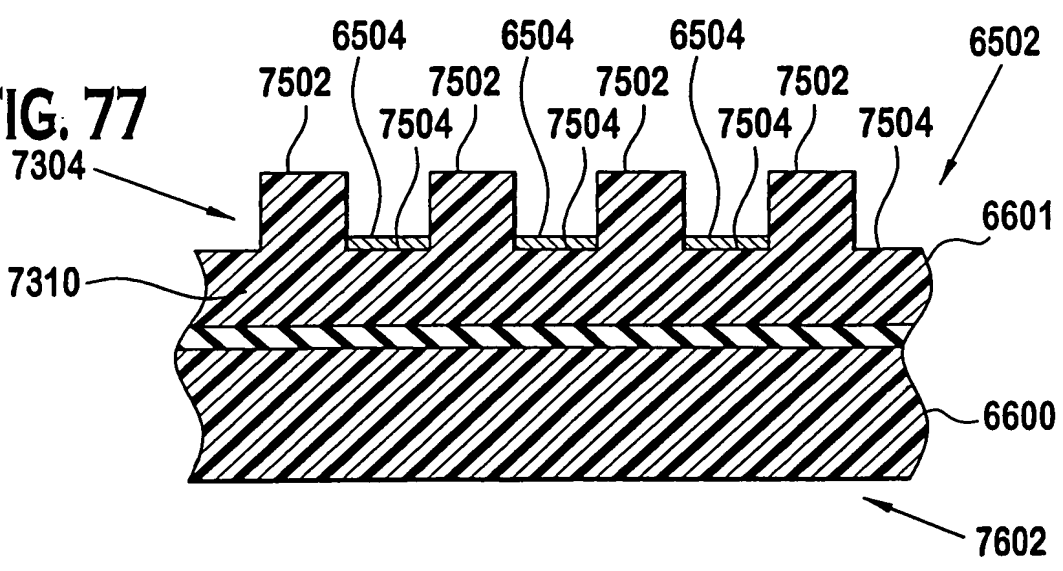


FIG. 77



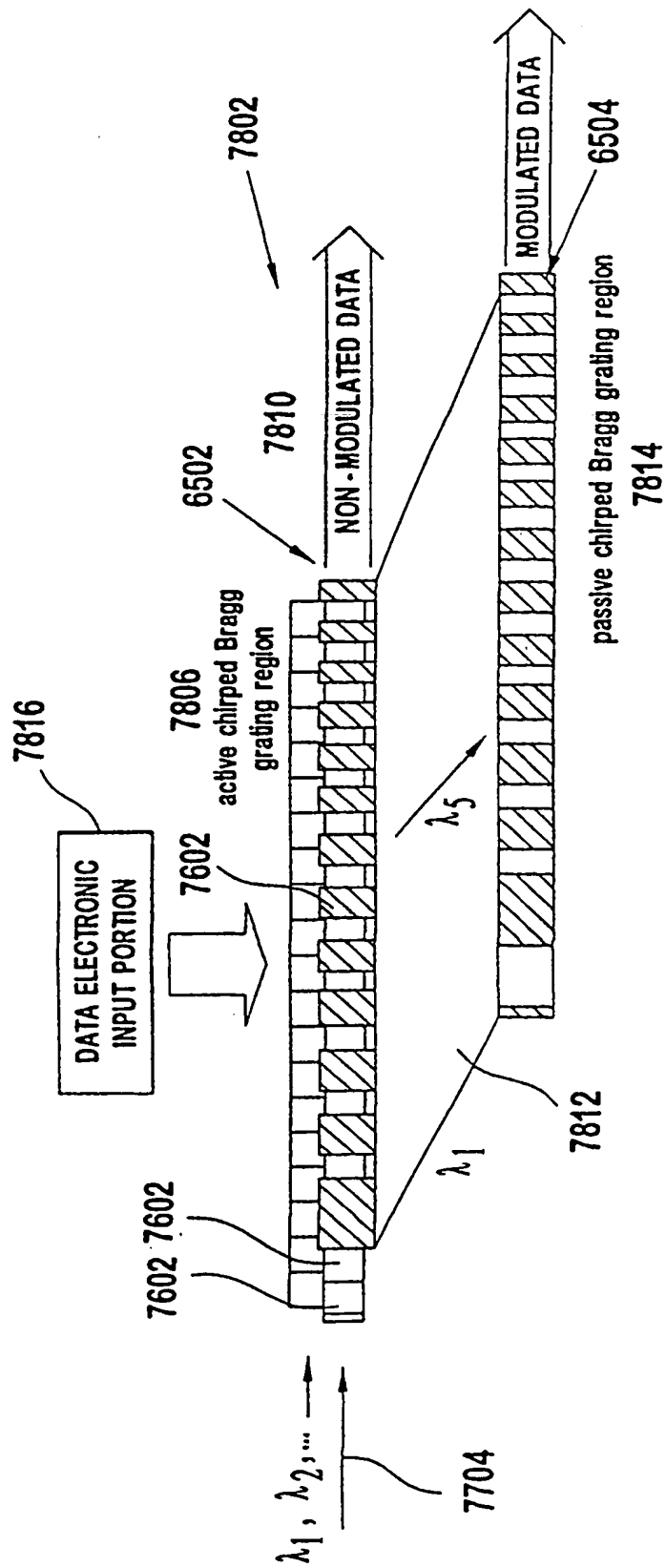


FIG. 78

FIG. 79

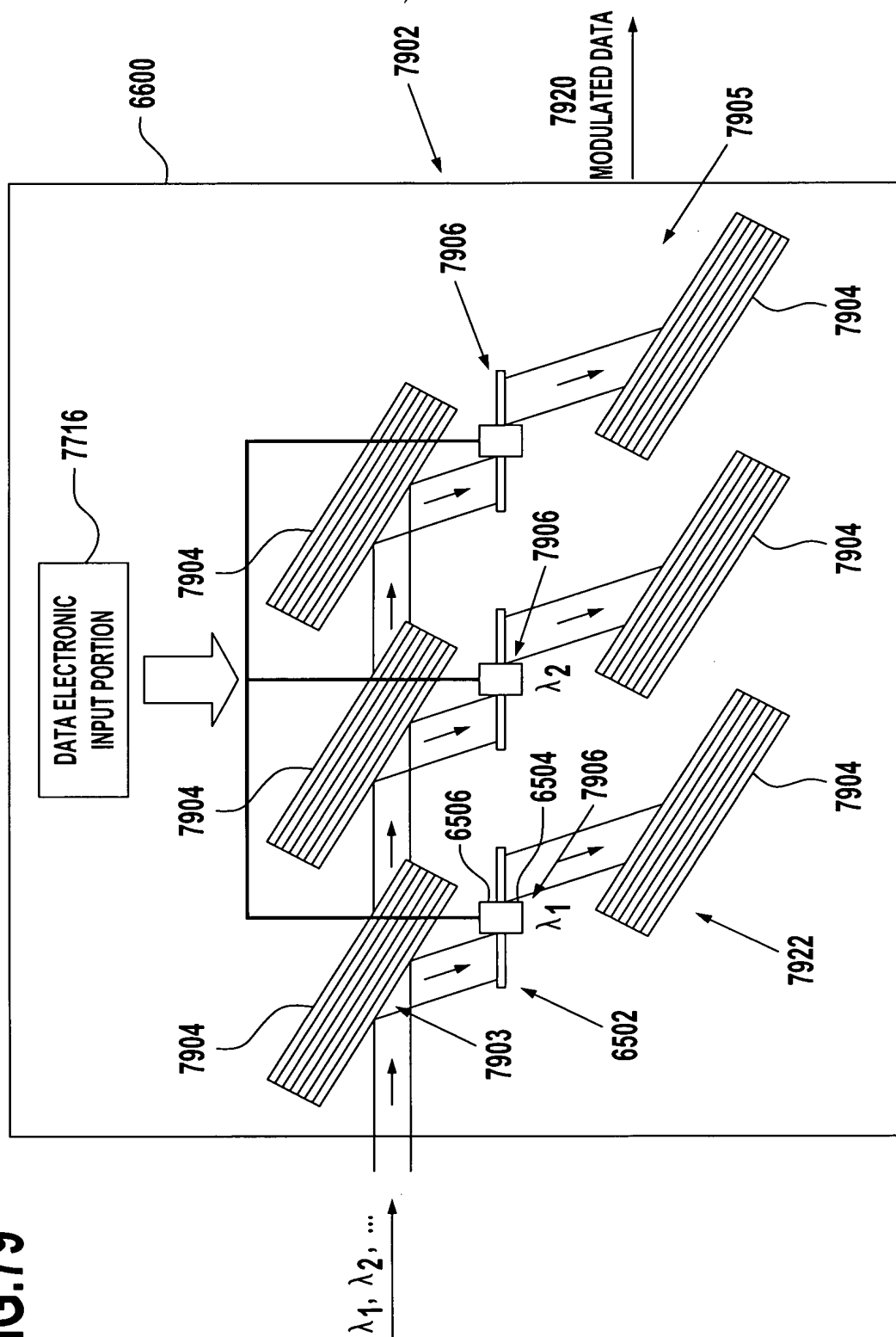
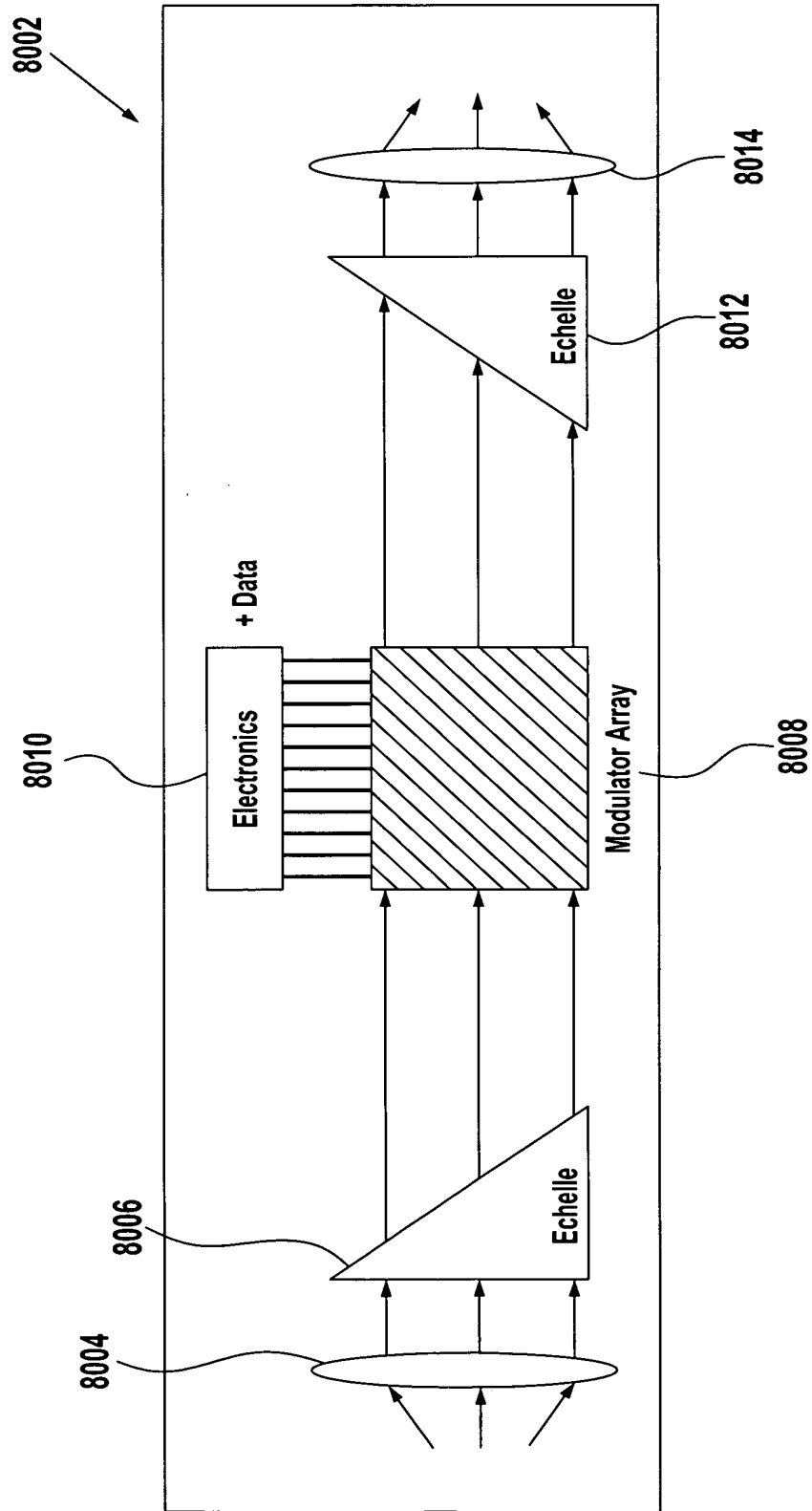


FIG. 80



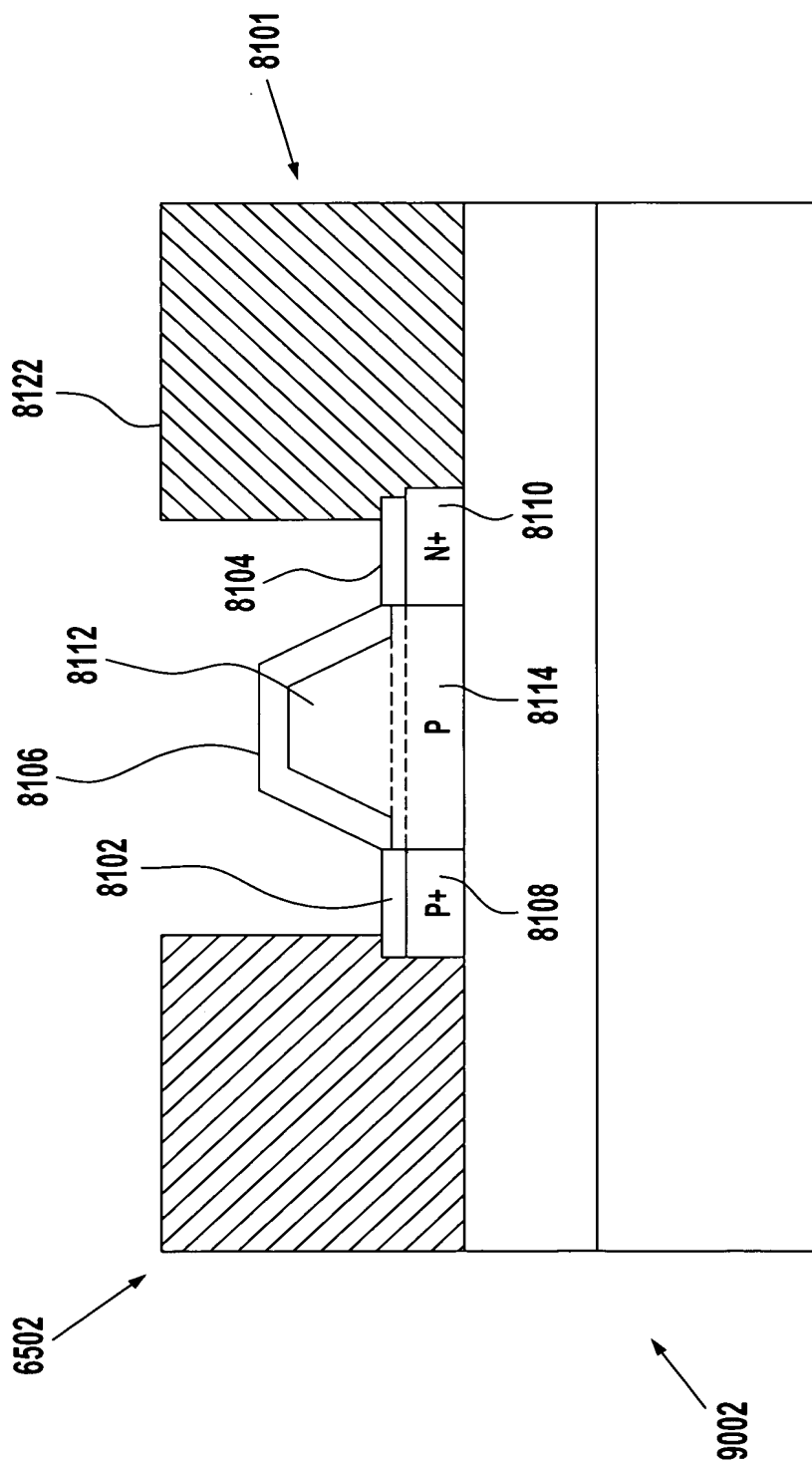


FIG. 82

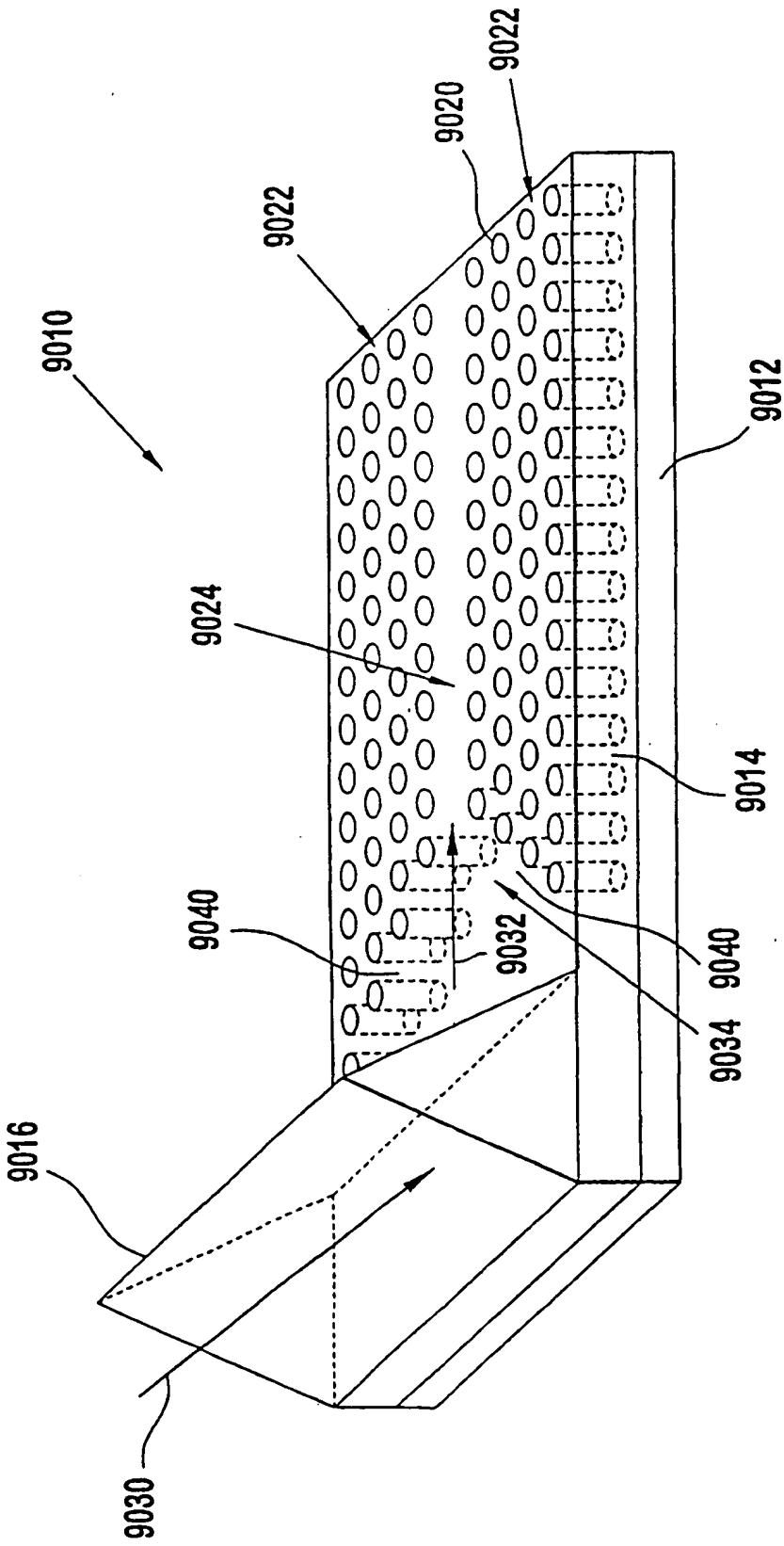


FIG. 83

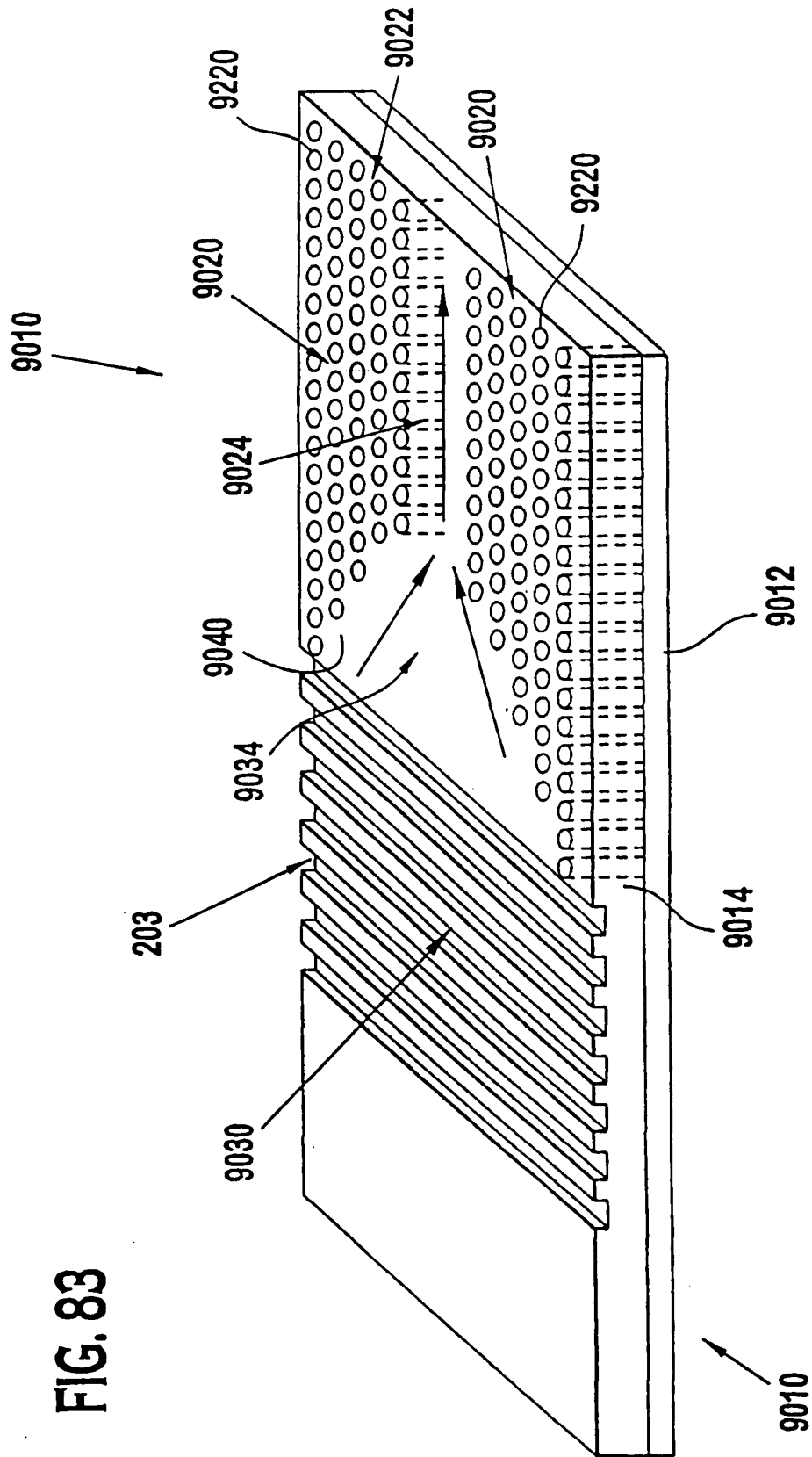


FIG. 84

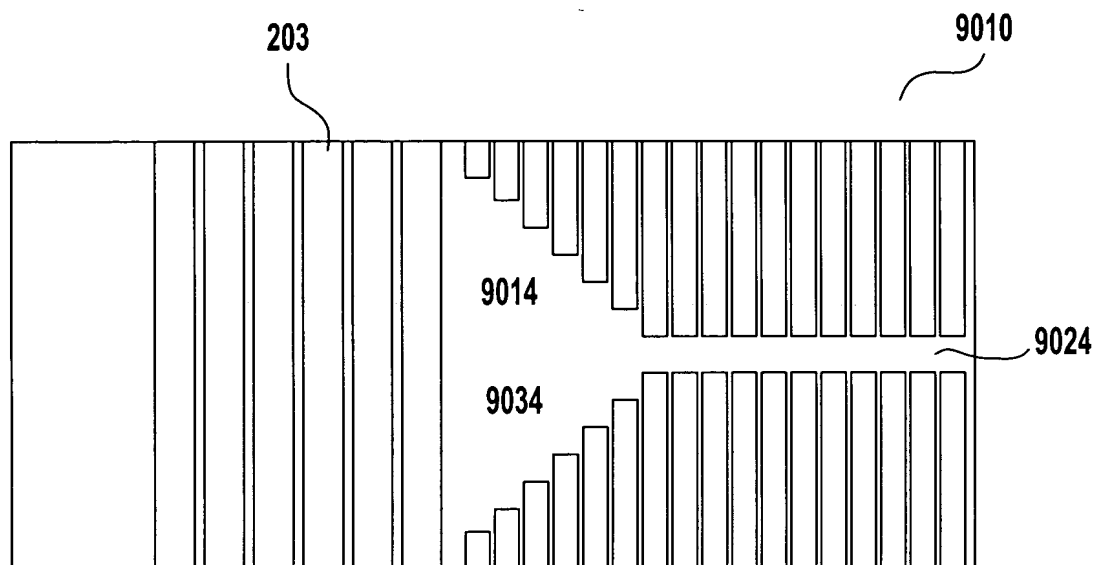


FIG. 85

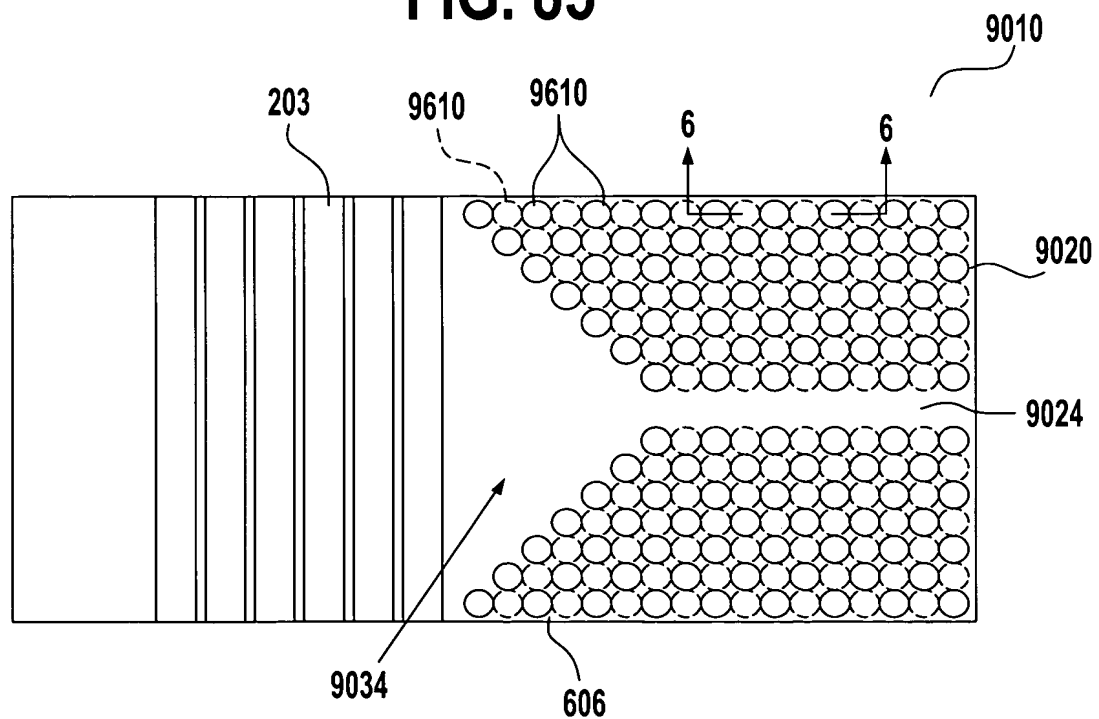


FIG. 86

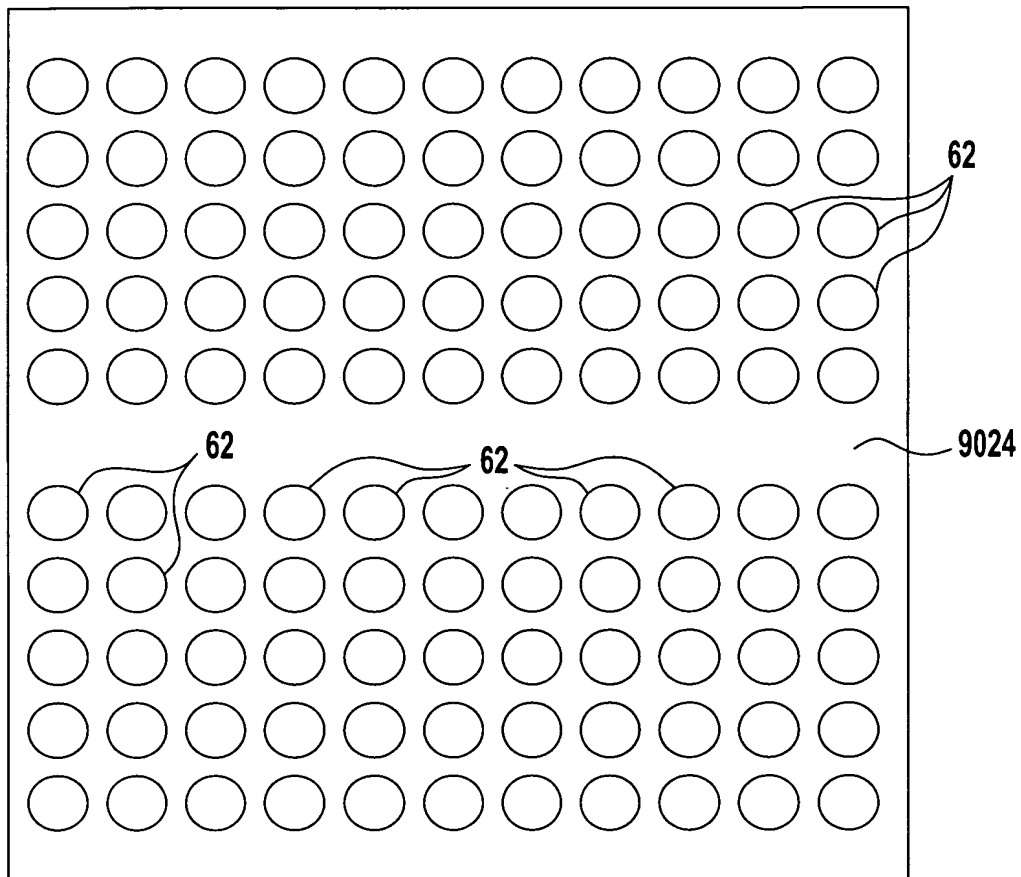


FIG. 87

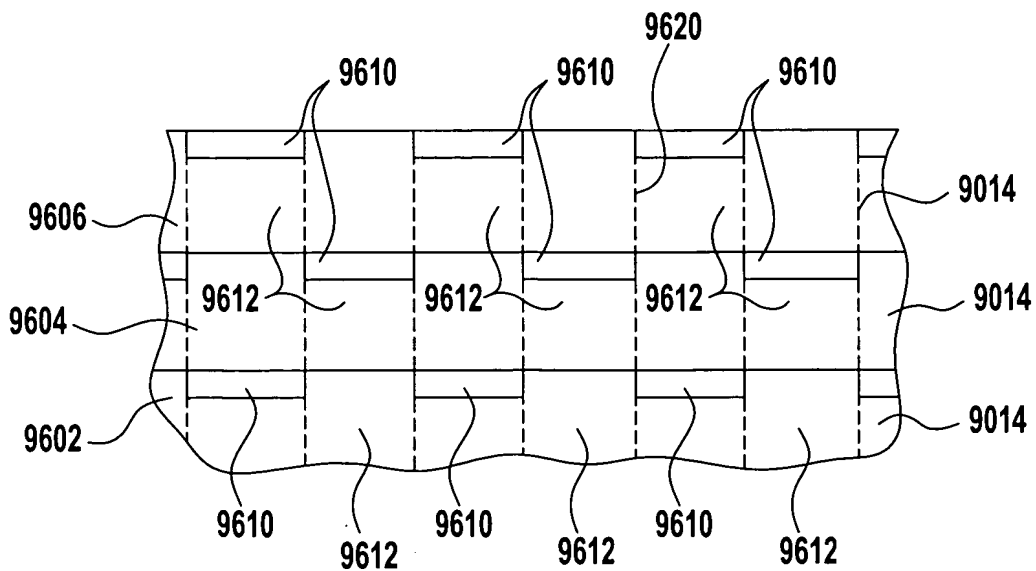


FIG. 88

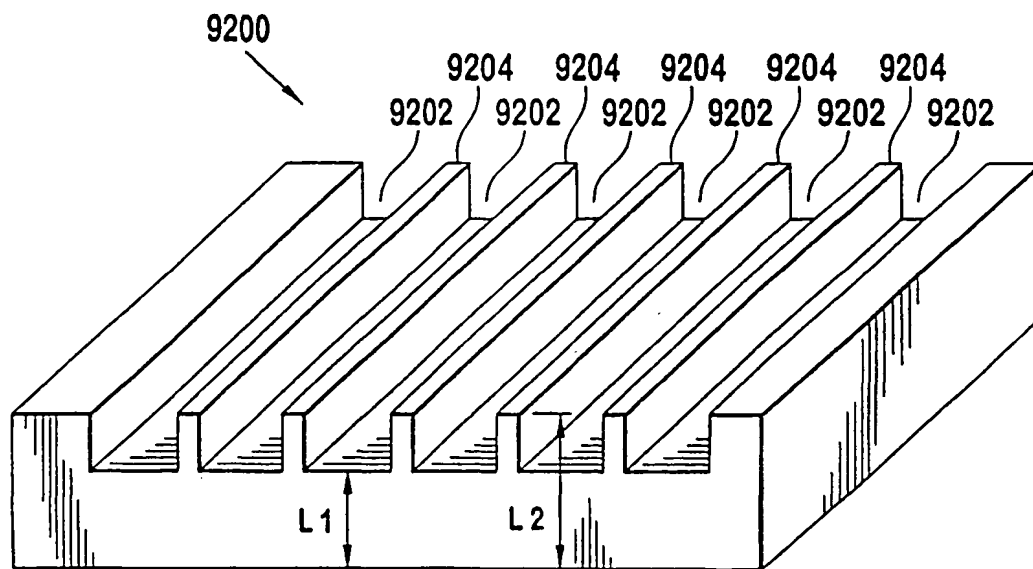
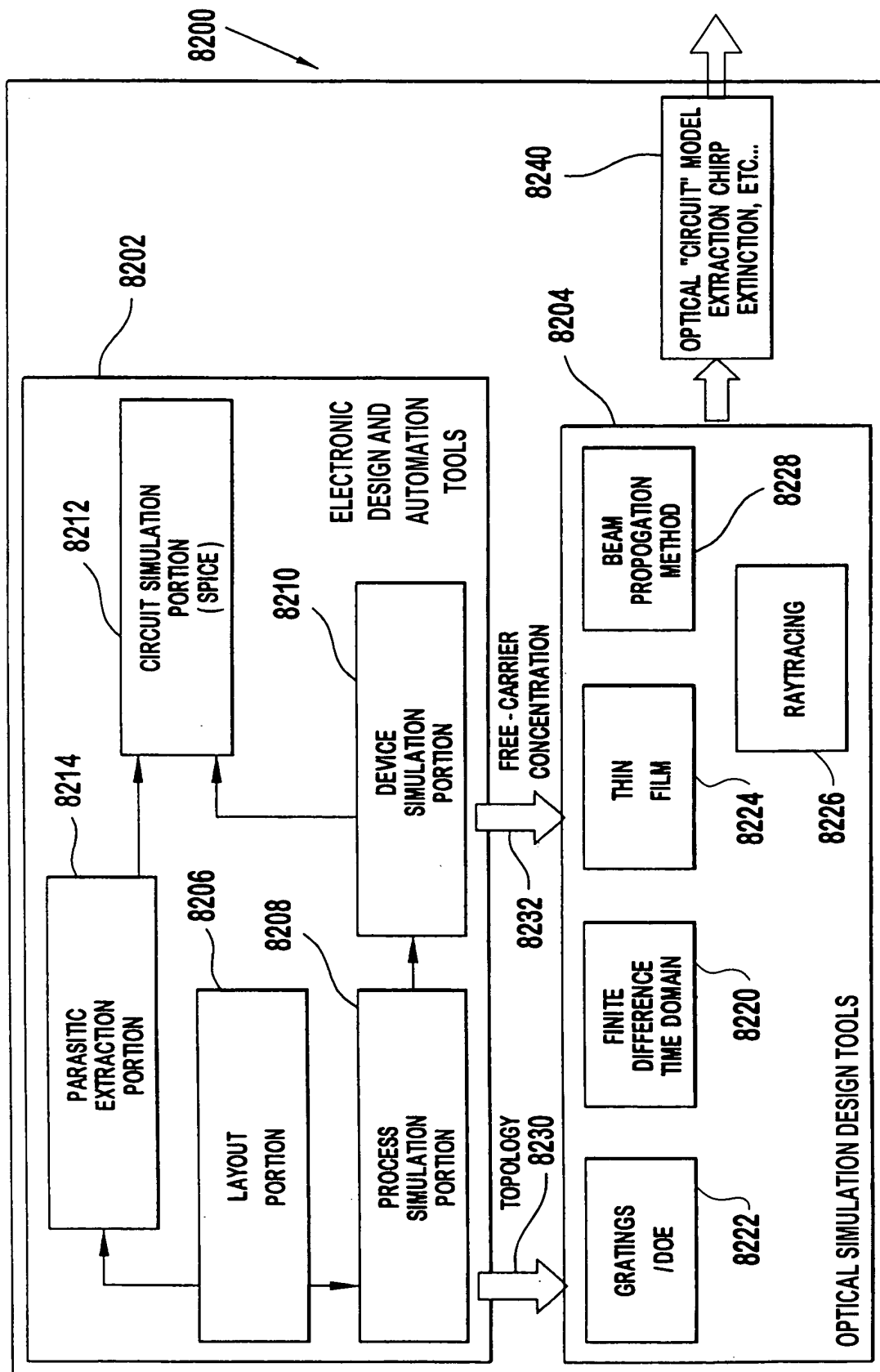


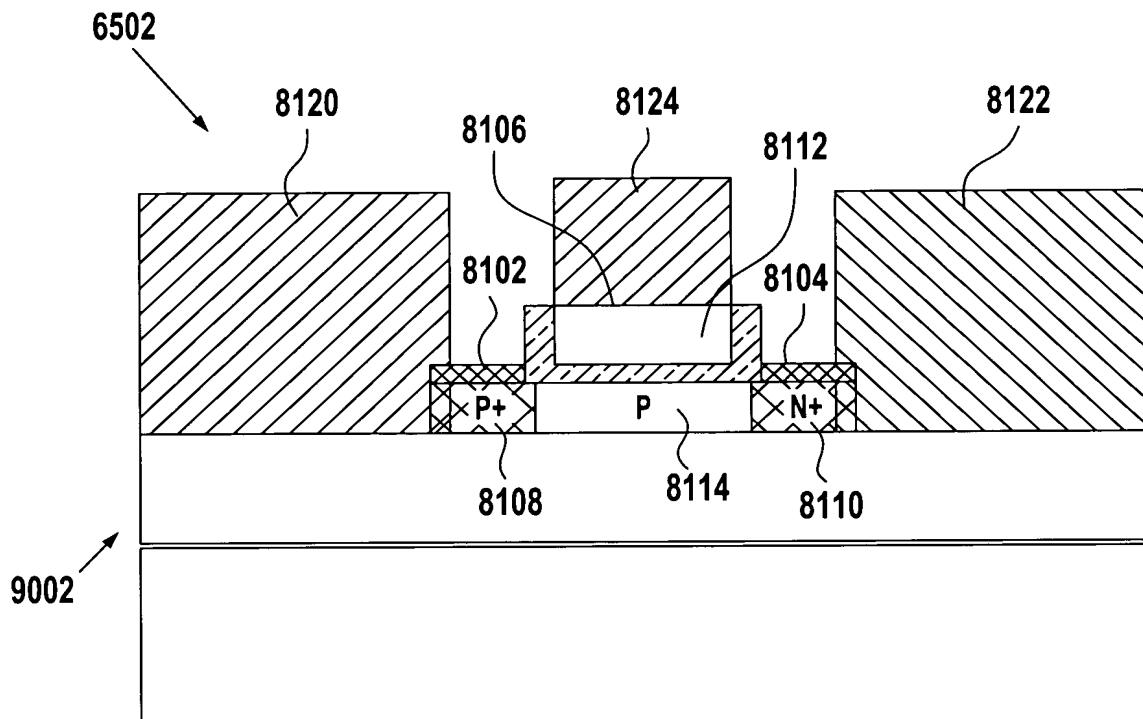
FIG. 89





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FIG. 90





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FIG. 91

